WASTE DISPOSAL INC. SUPERFUND SITE

Project Coordinator

August 3, 2000

Project No. 94-256

Mr. Mark Filippini U.S. Environmental Protection Agency 75 Hawthorne Street, No. H-7-2 San Francisco, California 94105-3901

Transmittal
Draft TM No. 13 Reservoir Liquids Removal Closeout Report
and Addendum No. 1 Comprehensive Ground Water
Quarterly Monitoring Plan (Revision 2.0)
Waste Disposal, Inc. Superfund Site

Dear Mr. Filippini:

Enclosed are the Draft TM No. 13 Reservoir Liquids Removal Closeout Report and Addendum No. 1 to the Comprehensive Ground Water Quarterly Monitoring Plan (Revision 2.0). The closeout report summarizes the data collected and the results of the TM No. 13 Treatability Study for Reservoir Liquids Removal. Addendum No. 1 consists of a Standard Operating Procedure (SOP) for Monitoring TM No. 13 Extraction Wells. This submittal is pursuant to your June 12, 2000 approval letter of the recommended changes to TM No. 13 operations requested in the April 25, 2000 Addendum No. 3. For future extraction well monitoring activities at the site, the SOP will be placed into the Quality Assurance Project Plan (QAPP) (Revision 2.0) dated November 17, 1997, as SOP "Q."

Please feel free to call me with any questions or comments at (714) 449-8921.

Very truly yours,

Kimberly a. Waite

lan Webster WDIG Project Coordinator

> IW/JB:rm Enclosures

cc: Andria Benner, EPA
Bill Coakley, EPA ERT
Tim Crist, CIWMB
Mike Finch, DTSC
Ed McGovern, WESTON
Roberto Puga, Project Navigator, Ltd.
Richard Scott, TRC

Mike Skinner, WDIG
John Wondolleck, CDM Federal
Shelby Moore, Esq., WDIG
Shawn Haddad, DTSC
Dave Becker, Army Corp of Engineers
Boone & Associates, for WDIG Members

DRAFT TM NO. 13 RESERVOIR LIQUIDS REMOVAL CLOSEOUT REPORT AND ADDENDUM NO. 1 COMPREHENSIVE GROUND WATER QUARTERLY MONITORING PLAN (REVISION 2.0)

Prepared for

The Waste Disposal, Inc. Group (WDIG)

Prepared by

TRC

Irvine, California

August 2000

TABLE OF CONTENTS

	PAGE NO.
LIST OF TABLES/LIST OF FIGURES	ii
1.0 BACKGROUND	1-1
2.0 OBJECTIVES AND PROCEDURES	2-1
2.1 Objectives of Treatability Study	2-1
2.2 Liquids Extraction and Disposal Procedures	2-1
2.3 Modifications to System	2-3
3.0 DATA COLLECTION	3-1
4.0 DATA ANALYSIS	4-1
5.0 CONCEPTUAL RESERVOIR MODEL	5-1
6.0 SUMMARY OF STUDY RESULTS	6-1
7.0 REFERENCES	7-1

TABLE OF CONTENTS (Continued)

LIST OF TABLES

TABLE NO.	TITLE
1	Sampling and Analysis
2	Materials and Equipment Specifications Summary
3	Preliminary Disposal Facility Identification
4	Summary of TM No. 13 Detected Analytical Results of Extraction Wells
5	Summary of TM No. 13 Treated Water Laboratory Data at Treatment System
6	Summary of TM No. 13 Recovered Oil Laboratory Data at Treatment System
7	Daily and Cumulative Totals of Water Extracted
8A	Gallons of Water Extracted Per Well
8B	Gallons of Water Extracted Per Well
9	Reservoir Liquid Level Monitoring Results

LIST OF FIGURES

TITLE

1	Extraction Well Locations
2	Typical Construction Details for TM No. 13 Extraction Wells
3	Schematic of Reservoir Liquids Removal System
4	Reservoir Liquids Removal System Layout
5	TM No. 13 Proposed Schedule
6	TM No. 13 Reservoir Liquids Removal Plan
7	Reservoir Liquids Extraction Per Week During System Operation

FIGURE NO.



TABLE OF CONTENTS (Continued)

LIST OF FIGURES (Continued)

FIGURE NO.	TITLE
8	Total Volume of Liquids Extracted Per Well as of June 2, 2000
9	Average Weekly Volume of Reservoir Liquids Extracted From RW-10
10	Average Weekly Volume of Reservoir Liquids Extracted From PB-6
11	Average Weekly Volume of Reservoir Liquids Extracted From RW-6
12	Average Weekly Volume of Reservoir Liquids Extracted From RW-7
13	Average Weekly Volume of Reservoir Liquids Extracted From RW-8
14	Average Weekly Volume of Reservoir Liquids Extracted From PB-8
15	Average Weekly Volume of Reservoir Liquids Extracted From PB-2
16	Average Weekly Volume of Reservoir Liquids Extracted From P-4
17	Average Weekly Volume of Reservoir Liquids Extracted From P-2
18	Average Weekly Volume of Reservoir Liquids Extracted From P-3
19	Average Weekly Volume of Reservoir Liquids Extracted From RW-9
20	Average Weekly Volume of Reservoir Liquids Extracted From RW-3
21	Average Weekly Volume of Reservoir Liquids Extracted From SDP-3
22	Average Weekly Volume of Reservoir Liquids Extracted From EX-4
23	Average Weekly Volume of Reservoir Liquids Extracted From RW-2
24	Average Weekly Volume of Reservoir Liquids Extracted From RW-4
25	Average Weekly Volume of Reservoir Liquids Extracted From VW-09
26	Average Weekly Volume of Reservoir Liquids Extracted From SDP-1
27	Average Weekly Volume of Reservoir Liquids Extracted From RW-5
28	Average Weekly Volume of Reservoir Liquids Extracted From SDP-2
29	Average Weekly Volume of Reservoir Liquids Extracted From EX-1



TABLE OF CONTENTS (Continued)

LIST OF FIGURES (Continued)

FIGURE NO.	TITLE
30	Average Weekly Volume of Reservoir Liquids Extracted From EX-6
31	Average Weekly Volume of Reservoir Liquids Extracted From P-1
32	Liquid Recovery Levels Per Well
33	Fill Soils and Waste Material Interface



1.0 BACKGROUND

- 1. This closeout report has been prepared to summarize the field and analytical data collected during the Pilot-Scale Treatability Study for Reservoir Liquids Removal (TM No. 13) at Waste Disposal, Inc. (WDI) and provide an analysis of the collected data.
- 2. The WDI Site (the Site) was originally used for storage of crude oil produced in the Santa Fe Springs area in the early to late 1920s. A concrete-lined reservoir was constructed to contain approximately one million barrels of oil (42 million gallons). During this timeframe, various activities were being performed outside the reservoir, including the storage and mixing of drilling muds. Additionally, the Site was subjected to ponding of rainwater. It is not conclusive from aerial photograph review whether waste disposal activities were being systematically carried out during this timeframe. Beginning in the late 1940s to early 1950s, the Site was used for disposal of a range of wastes and solid fill materials. In 1953, the Site began receiving fill material and the reservoir was covered with soil fill and graded to its present condition. Polychlorinated biphenyls (PCBs) have been detected in the reservoir in isolated areas. For extensive explanation of the Site history, refer to EBASCOs Remediation Investigation (RI) Report dated November 1989 (EBASCO, 1989) and TRCs Remedial Design (RD) Investigative Activities Summary Report dated August 1999 (TRC, 1999a).
- 3. The TM No. 13 workplan was submitted to the United States Environmental Protection Agency (EPA) on February 26, 1999. EPA approval was received on April 28, 1999. The liquids removal treatability study was implemented by the Waste Disposal, Inc. Group (WDIG) as a 1-year study (see TRC, 1999b for complete details). The system, activated on May 26, 1999, was shut down on June 2, 2000. Since the start-up of the system, a total of approximately 130,150 gallons of liquids (800 gallons of oil and 129,350 gallons of water) were extracted from the reservoir.
- 4. The remainder of this report is organized in the following chapters:
 - Chapter 2.0 Objectives and Procedures
 - Chapter 3.0 Data Collection
 - Chapter 4.0 Data Analysis
 - Chapter 5.0 Conceptual Reservoir Model
 - Chapter 6.0 Summary of Study Results
 - Chapter 7.0 References



2.0 OBJECTIVES AND PROCEDURES

2.1 OBJECTIVES OF TREATABILITY STUDY

- 1. Information regarding the characteristics of the liquids and materials within the reservoir boundary was collected during previous investigations. These investigations were conducted at three localized pumping areas, including several small-sized trenches. These tests were conducted for short intervals (i.e., 1- to 4-week pumping periods).
- 2. Observations and analytical data collected during the investigative activities showed the following characteristics of the materials encountered within the reservoir:
 - Reservoir liquids consist of infiltrated rainwater and crude oil.
 - Fill material consists of a heterogeneous silty sand to sandy silt layer intermixed with wood and concrete debris.
 - Waste material consists of black stained clays (drilling muds) with zones of liquids.
 - Hydraulic characteristics of liquids within the reservoir boundary are heterogeneous.
 - Chemical characteristics of liquids indicate that the liquids are not hazardous.
 - Liquids within the sump and fill material are contained within higher permeability zones.
- 3. The information gathered by the previous investigations was insufficient to determine if large scale liquids extraction from the reservoir was feasible and effective. Therefore, the treatability study was designed with the following objectives:
 - Determine the feasibility of reservoir liquids extraction on a large scale based on in-situ characteristics of the materials within the reservoir boundary.
 - Determine if extracting reservoir liquids is cost-effective.
 - Reduce free liquids in the reservoir.
 - Collect additional data to supplement TM Nos. 6, 8 and 12 activities and findings.

2.2 LIQUIDS EXTRACTION AND DISPOSAL PROCEDURES

 The EPA approved the extraction well locations on January 22, 1999. The locations for ten new extraction wells were selected based on findings of previous reservoir investigations. Eight existing wells installed as part of previous reservoir investigations were also used for this treatability study. Figure 1 shows the well locations. The new wells were constructed as shown in Figure 2.



- 2. The liquids were extracted from the wells using pneumatic pumps attached to an air compressor capable of providing approximately 10 standard cubic feet per minute (scfm) of free air at 100 pounds per square inch (psi) of pressure to each of the 18 wells. The volume of liquids extracted from each well was measured via an in-line meter (i.e., totalizer or pump cycle counter).
- 3. The purged liquids were transferred via 1-inch diameter polyvinyl chloride (PVC) piping within a 3-inch diameter PVC pipe to provide double-wall protection from the wells to a main line, which led to the bermed liquids treatment and storage unit area. The liquids were sent through an oil/water separator, the water phase was transferred to a sump and pumped through a carbon absorption drum to remove trace organic constituents. After treatment, the water was stored in a 20,000 gallon Baker tank. Prior to disposal, water samples were collected and analyzed for the constituents in Table 1 to confirm if the samples met the acceptance criteria of the disposal facility.
- 4. The recovered oil was transferred to a separate Baker tank. The 800 gallons of oil collected during the treatability study are currently stored in the Baker tank. Prior to disposal a sample of the recovered oil will be collected and analyzed for the constituents listed in Table 1 to confirm that the sample meets acceptance criteria of the disposal facility. A schematic of the reservoir liquids removal system and layout is shown in Figures 3 and 4.
- 5. Prior to start-up, a shake-down of the system was performed and included the following list of precautionary activities:
 - Verified that well pumps worked properly.
 - Obtained samples from the extraction wells (i.e., using sample ports and/or disposable bailers) for analysis.
 - Visually inspected the system for leaks.
 - Verified operation of the AutoDialer.
 - Confirmed that the pump operated at a rate capable of maintaining similar flow rates from oil/water separator.
 - Inspected the instrumentation associated with the following controls:
 - Air Compressor Pressure Switch.
 - Effluent Storage Tank High Level Switch.
 - Effluent Storage Tank High High Level Switch.
- 6. After the system was inspected, the air compressor was started and the system pressurized.

 The system was monitored continuously for the first 12 hours of operations. Monitoring was



reduced to every 4 hours for the next 48 hours (daylight hours only). At the completion of the initial 72-hour monitoring, the frequency was reduced to once a day through day 18 of operation at which time, monitoring generally occurred every 3 to 5 days.

- 7. The system continued to operate as shown on the schedule in Figure 5. During operation of the system, certain criteria had to be met to continue pumping from the wells. Figure 6 shows the "system shutoff" criteria decision tree. The "system shutoff" criteria consisted of the following elements:
 - Chemical characterization of well output to assure nonhazardous characteristics prior to treatment.
 - If the wells had produced hazardous liquids, pumping from the wells would have been discontinued. The following delineated the hazardous waste criteria for liquids extracted from the reservoir:
 - Total PCBs: > 50 parts per million (ppm) or in excess of disposal criteria.
 - Remaining parameters: Above State and Federal requirements.
 - Evaluation of pumping.
 - Extraction wells were monitored regularly as noted above. If pump rates were unable to be sustained, pumping frequency was decreased or discontinued.
 - The trigger points for the pump to shutoff and turn-on were as follows:
 - <u>Shutoff</u>: Approximately 18 to 24 inches (i.e., location of pump inlet) above the bottom of the extraction well.
 - <u>Turn-on</u>: Approximately one-half the initial water column. This may have been adjusted based on field conditions.
 - Chemical characterization of treatment effluent to assure disposal as nonhazardous liquid.
 - If the treated effluent had been unable to be disposed of as nonhazardous, pumping would have been discontinued. The following delineates the hazardous waste criteria for liquids extracted from the reservoir:
 - Total PCBs: >50 ppm or in excess of disposal criteria.
 - Remaining parameters: Above State and Federal requirements.

2.3 MODIFICATIONS TO SYSTEM

- 1. Due to a decrease in the volume of liquids extracted from the system, the monitoring activities were modified on July 19, 1999. The following modifications were implemented:
 - Extraction Wells RW-2, -3, -4, -5, PB-2, -4, EX-2 and -4 were manually purged once a week.
- Extraction rates and liquid recovery rates continued to decrease throughout the course of the study. For example, the extraction rate of RW-10, the largest producer of liquids, decreased



from 38 gallon/hour on June 1, 1999 to 2 gallons/hour on September 15, 1999. This continued decrease in the volume of liquids extracted from the system, led to further modifications beginning in October 1999:

- Liquid levels in pumped and nonpumped reservoir wells were monitored every 2 weeks.
- Pumping of off-line wells (i.e., RW-2, -3, -4, -5, PB-2, -4, and EX-4) occurred twice a week. Wells were completely purged to help to maximize oil yield.
- "Downtime" of system was increased to a 1-week period, to determine if a longer recovery period resulted in greater extraction rates.
- Nonproducing extraction wells and redundant localized wells (pumping and nonpumping) were eliminated as part of the well network. As discussed above, liquids recovery has been slowly decreasing since system start-up. It was no longer productive or cost-effective to continue to operate these wells. As part of TM No. 13 Addendum 2 the following nonproducing or redundant wells were abandoned in January 2000:

```
- TT-II-1 - EX-3 - NSP-1 - SSP-1
- TT-II-2 - EX-5 - NSP-2 - SSP-2
- EX-2 - PB-4 - NSP-3 - SSP-3
```

- There are existing wells within the reservoir boundary (i.e., "nonpumped" wells) that are not included as part of TM No. 13. As requested by the EPA, the following existing reservoir wells/monitoring points were added to the study system to increase liquids recovery and these wells were actively pumped from January 2000 until shutdown on June 2, 2000.
 - EX-1 SDP-1 P-1 P-4 - EX-6 - SDP-2 - P-2
 - VW-09 SDP-3 P-3

3.0 DATA COLLECTION

- 1. Routine monitoring during system operation was performed to evaluate the feasibility of liquids extraction. The following system parameters were monitored as part of the study field activities:
 - Individual well pumping rates.
 - Total volume of liquids removed from each extraction well.
 - Total volume of liquids removed from the reservoir.
 - Sustainability of yield over time.
 - Liquid level recovery rates.
 - Liquid levels in nonpumped wells (initiated in September 1999).
 - Chemical properties of the reservoir liquids.

Figures 7 and 8 summarize the system data collected from May 26, 1999 through June 2, 2000. Initially the system was monitored daily to check equipment and to record totalizer readings from the individual wells and Baker tanks. After the first 18 days of operation, monitoring of the system generally occurred every 3 to 5 days. Figures 9 through 31 show the weekly extraction rate for the individual wells. Liquid levels in the pumped and nonpumped wells were measured 8 times to determine recovery rates after a system shutdown and to evaluate the potential zone of influence (see Figure 32).

- 2. In addition to monitoring the physical characteristics of reservoir liquids, several sampling events occurred as part of the study activities for operational and disposal purposes. The following locations were sampled and analyzed for the parameters listed in Table 1:
 - Extraction wells (prior to system start-up and on June 10, 1999).
 - Treatment system during start-up.
 - Stored effluent and recovered oil (disposal purposes only).

Samples were collected from sample ports located at each of the locations noted above. If discrete samples were required (i.e., oil and water) disposable PVC bailers were used.

- 3. To manage the treated aqueous effluent, the following procedures were implemented:
 - When the treated water effluent tank (approximately 20,000 gallons) was close to full capacity, the effluent flow was transferred to a 6,000-gallon storage container.
 - A sample from the 20,000-gallon effluent tank was collected.
 - Laboratory analyses were completed within 72 hours. Based on the disposal criteria for the facilities shown in Table 3, the designated licensed transporter (i.e., Consolidated Waste Industries) was contacted and the aqueous phase liquids from the 20,000-gallon tank was transported and disposed at a designated disposal facility.



- The liquids in the 6,000-gallon backup tank were then transferred into the 20,000-gallon storage tank and the effluent flow from the treatment unit was transferred back into the 20,000-gallon storage tank.
- 4. To manage the recovered oil, the following procedures will be implemented:
 - When the recovered oil storage container was near capacity, the effluent was transferred to a backup storage container.
 - Recovered oil storage containers will be sampled prior to disposal.
 - Laboratory analysis will be completed within 72 hours. Based on the disposal criteria for the facilities shown in Table 3, the final disposition of the liquids will be determined.
 - A designated licensed transporter will then be contacted and the oil removed for disposal to a designated disposal facility (see Table 3).
- 5. Results of analytical tests performed on liquids from the extraction wells are summarized in Table 4. Results of analytical tests performed on treated water for disposal purposes are summarized in Table 5. Results of analytical tests performed on the recovered oil are summarized in Table 6. Daily and cumulative totals of water extracted from the reservoir are summarized in Table 7. Tables 8A and 8B provide summaries of the total volume of liquid extracted from each individual well. Table 9 summarizes the liquid levels in the pumped and nonpumped wells.



4.0 DATA ANALYSIS

1. The following are approximate total liquid volumes extracted from the reservoir and disposed through June 2, 2000.

•	Total volume of water extracted:	129,350
•	Total volume of oil extracted:	800
•	Total volume of treated water disposed of	118,000
	at the Crosby & Overton disposal facility.	

There is approximately 11,350 gallons of treated effluent remaining in the Baker tank.

- 2. Figure 7 shows the average liquids extraction rate per week during system operation. The extraction rate has declined steadily with the exception of several short-term peaks that were caused by shutting down the system for 1 to 2 weeks to monitor liquids level recovery and/or to perform routine maintenance. There has been a continued decrease in the liquid recovery rates and extraction rates since the system has been operating. For example, the extraction rate for RW-10, the largest producer of liquids, decreased from 38 gallon/hour on June 1, 1999 to approximately 6 gallons/day on May 19, 2000.
- 3. Final total liquid volumes extracted from each well are shown in Figure 8. As indicated, RW-10 and PB-6 were the highest producers of reservoir liquids (RW-10: 43,643 gallons and PB-6: 24,118 gallons). These results indicated that the largest producing wells are located in the eastern portion of the reservoir, and the rate of extraction decreases significantly towards the west.
- 4. Figure 32 provides a summary of the liquid level recovery data. The system was shut down on a regular basis to monitor the liquids recovered in all of the extraction wells. The top five producing wells (RW-10, PB-6, RW-6, RW-7 and RW-8) have generally shown a decrease in the liquid level recovery over time. The middle producing wells (TT-II-1, TT-II-2, PB-8, PB-2 and RW-9) have shown erratic recovery levels. The low producing wells (EX-2, RW-3, RW-2, EX-4, RW-4, RW-5, PB-4, EX-1, EX-6, SDP-1, SDP-2, SDP-3, P-1, P-2, P-3 and P-4) have also shown erratic recovery levels.



5.0 CONCEPTUAL RESERVOIR MODEL

- 1. The distinctly spatial distribution of liquids yield within the reservoir suggests a dominant physical characteristic controlling liquid flow to collection points (i.e., monitoring/extraction wells). The purpose of this section is to present a conceptual model of the reservoir that accounts for the observed variations in liquids yield.
- 2. The characteristics of the reservoir, in terms of liquids yield, have been determined using two primary investigation techniques:
 - Soil borings completed into the reservoir subsurface:
 - SB-series borings (EBASCO, 1988).
 - TS-series geoprobes (TRC, 1997).
 - EX-, P-, SP- and NP-wells and probes (TRC, 1997 and 1998).
 - TT-wells (TRC, 1998).
 - RW-series extraction wells (TRC, 1999).
 - Liquid pump tests and extraction treatability study:
 - TM No. 6 Liquid Pump Test (TRC, 1997 and 1998).
 - TM No. 13 Pilot-Scale Treatability Study for Reservoir Liquids Removal (TRC, 1999).
- 3. The interface surface between the drilling muds and fill material is created which would tend to retard infiltrating liquids. Since the interface surface is sloping, wells located at relative low points would tend to have the largest liquids yield. This gradient controlled flow is probably the primary component of liquid conductivity in the reservoir.
- 4. The reservoir data collected has been used to create both physical and liquid extractability depictions of the reservoir. A three-dimensional surface map of the interface of the fill soil and waste material was prepared using the boring data noted above (Figure 33).
- 5. An examination of the data indicates a strong correlation between elevation of the fill/waste material interface surface and total liquids extraction. The interface surface is relatively flat in the northwest portion of the reservoir. Liquids extraction was very low in this area, ranging from 0 to 611 gallons pumped over 12 months of system operation. The central portion of the reservoir shows a range from relatively gentle surface gradients to moderately steep. In this area, yield of the extraction wells ranged from 512 to 7,700 gallons. Steep dipping areas are observed in the eastern and southwestern portion of the reservoir. RW-10 and PB-6, located



in the eastern portion, produced total volumes of 42,643 and 24,118 gallons, respectively. Extraction Well RW-6, located in the southwestern portion, produced approximately 18,954 gallons.

6. A minor component of liquids conductivity is the slow weeping flow liquids contained in the waste material. The flow magnitude from this component is probably on the order of the yield experienced by wells in the northeast portion of the reservoir, which exhibited average extraction rates of 0 to 4 gallons per day (0 to 0.015 gallons per hour). Wells in the northeast portion of the reservoir exhibited average extraction rates of 8 to 245 gallons per day (0.35 to 10.2 gallons per hour).

6.0 SUMMARY OF STUDY RESULTS

- 1. As described in Chapter 1.0, the objectives of the study were:
 - Determine the feasibility of reservoir liquids extraction on a large scale based on the in-situ characteristics of the materials within the reservoir boundary.
 - Determine if extracting reservoir liquids is cost-effective.
 - Reduce free liquids in the reservoir.
 - Collect additional data to supplement TM Nos. 6, 8, and 12 activities and findings.
 - Assist in developing a conceptual model of the reservoir.
- 2. The data and evaluation resulting from TM No. 13 have yielded the following results:
 - The data collected indicates that the large-scale extraction of liquids is feasible, but is not practical based on the relatively low sustained pumping rates observed. It appears that a significant portion of the free liquids have already been extracted as shown in Figure 7 and that continued large-scale liquids removal will have little affect on reducing overall risks due to the Site.
 - The data indicates that large-scale extraction of liquids is not cost-effective. As of June 2, 2000, the average cost of extracting, treating and disposing liquids was approximately \$8.24 per gallon.
 - As discussed in Chapter 5.0 a substantial amount of free liquids has been removed from the reservoir (i.e., 130,150 gallons). It is uncertain what percentage of the total liquids free liquids have been removed because the total volume in the reservoir cannot be estimated with a high level of confidence. However, as shown in Figure 32, liquid levels have decreased in each of the monitoring and extraction wells. This reduces overall Site risks.
 - The volume of water extracted from the wells has not generated a corresponding volume of oil extraction. This may result from the following:
 - The oil is heavy and therefore is not mobile.
 - The drilling muds retard migration.
 - The water is coming from the fill/waste interface.

The ratio of oil to water extracted from the system is on the order of 1:0.006, even though significantly measurable oil columns were observed prior to extraction. As the wells have been pumped, the thickness of the oil columns in the wells has decreased.

• Based on the results of TM No. 13, and the data collected in TM Nos. 6, 8 and 12, a reservoir model has been developed to explain the conditions as discussed in Section 5.0.



- 3. The data evaluation indicates that the objectives of TM No. 13 have been accomplished. The findings also indicate that continued operation of a large-scale liquids extraction is not warranted. Therefore, the active phase of TM No. 13 has been concluded and a periodic reservoir liquids monitoring/handling program is proposed for inclusion in the ongoing Ground Water Monitoring Program.
 - Active pumping of the Reservoir Wells was stopped on June 2, 2000 as approved by EPA.
 - The liquid conveyance system was constructed with an expected design life of 1 year. (i.e., use of non-UV protected PVC pipe, etc.). By discontinuing pumping through the conveyance lines, there will be less chance of accidental release or spills. Dismantling of the system began July 25, 2000.
 - Monitoring of liquid levels in a selected number of interim monitoring wells began on July 27, 2000. Ten Reservoir Wells (RW-2, -4, -6, -7, -8, -9, -10, PB-2, -6 and -8) have been chosen as monitoring wells for reservoir liquids. These wells were selected based on their reservoir distribution (i.e., reservoir coverage and TM No. 13 pumping history). See Standard Operating Procedures (SOP) for greater details.
 - These ten wells will be monitored on a monthly basis for the first 3 months. After 3 months, the wells will be monitored on a quarterly basis until the Remedial Action.
 - Monitoring wells that are found to have 18 or more inches of liquid will be pumped or bailed to a level below 12 inches.
 - The remaining reservoir wells (EX-1, -4, -6, P-1, -2, -3, -4, RW-3, -5, SDP-1, -2, -3 and VW-09) will be not be abandoned as they may be added to the ten-well monitoring program if deemed necessary by the EPA.



7.0 REFERENCES

EBASCO Services Incorporated, 1989, Final Remedial Investigation Report, Waste Disposal, Inc., Santa Fe Springs, California. EPA Contract 68-01-7250. November 1989.

TRC, 1999a, RD Investigative Summary Report (Rev. 1.0), Waste Disposal, Inc. Superfund Site, August 1999.

TRC, 1999b, TM. No. 13 – Pilot-Scale Treatability Study for Reservoir Liquids Removal (Rev. 1.0), March, 1999.

TABLE 1

SAMPLING AND ANALYSIS PLAN WASTE DISPOSAL, INC. SUPERFUND SITE

			ANAL	YSES		
SAMPLING LOCATION	FREQUENCY	Aqueo	us Phase	Oily Phase		
		EPA Method	Parameters	EPA Method	Parameters	
Extraction Wells	 One sample from the aqueous and/or oily phases⁽¹⁾ prior to pumping One sample per week from the aqueous and/or oily phases⁽¹⁾ or the first month of liquids extraction One sample per month from the aqueous and/or oily phases⁽¹⁾ after the first month of liquids extraction As needed to resolve disposal issues 	8260 418.1 8080 9045 7000	VOCs Oil & Grease PCBs pH Priority Metals	8260 8080 7000	VOCs PCBs Priority Metals	
Oil/Water Separator	Sample at startup only As needed to resolve disposal issues	418.1 8080	Oil/Grease PCBs	8080	PCBs	
Effluent Storage Tanks:						
Aqueous Phase	 One composite sample per week for the first month of liquids extraction One composite sample per month after the first month of liquids extraction As necessary for disposal 	418.1 8260 8080 9045 7000	Oil/Grease VOCs PCBs pH Priority Metals	NA	NA	
Oily Phase	 One composite sample per week for the first month of liquids extraction One composite sample per month after the first month of liquids extraction As necessary for disposal 	NA	NA	8260 8270 8080 7000	VOCs SVOCs PCBs Priority Metals	

94-256/RPTS/DrTMNo13ReLiRe (8/3/00/rm)

NA = Not Applicable



⁽¹⁾ Oily phase sample will be collected if encountered in the extraction well and a sufficient volume can be collected, the order of analysis will be as follows: (1) PCBs; (2) VOCs; and (3) Priority Metals.

MATERIALS AND EQUIPMENT SPECIFICATIONS SUMMARY WASTE DISPOSAL, INC. SUPERFUND SITE

MATERIAL/EQUIPMENT DESCRIPTION	SPECIFICATION ⁽¹⁾						
Extraction System							
Air Compressor	Two-Stage Compressor (Model No. 4364K44) ⁽²⁾						
Pressure Switch	PS-E Series (25 to 100 psi)						
Extraction Wells ⁽³⁾							
Casing	4" Diameter, Schedule 40, PVC - Threaded						
Screen	0.02", Schedule 40, PVC - Threaded						
Filter Pack	1/4" Diameter Gravel						
Seal	Bentonite Pellets (1/4") and Bentonite Grout						
Pumping Equipment							
Pneumatic Pump	Hammerhead (Model No. H23SEB) or equal						
Monitoring Equipment							
Pump Cycle Counter	QED Pump Cycle Counter (Model No. 37000) or equal						
Air & Liquid Hoses/Piping							
Air Hose	1/4" (I.D.) x 1/2" (O.D.) (Working Pressure: 200 psi)						
Piping	1" and 2" Diameter, PVC, Schedule 40, Glued Joints						
Liquids Handling Components							
Oil/Water Separator	QED DP-8A (1 to 30 gpm) or equal						
Sump	Christy U32 Catch Basin (2' x 3' with 6" walls) or equal						
Sump Pump	Automatic Cast Iron Pump (1/4 HP Model)						
Carbon Absorption Drum	55-gallon Steel or Plastic Drum (200- to 350-pound capacity)						
Storage Tanks/Drums	55-gallon drum (steel), 3,000-gallon (Poly), 6,500-gallon (Poly) and 20,000-gallon (Steel)						
Level Switches	LS-800 Series or equal						
AutoDialer	Sensaphone 1108 or equal						

94-256/RPTS/DrTMNo13ReLiRe (8/3/00/rm)

(2) Size and make to be determined based on final design.

(3) Specifications for 10 new extraction wells only.



⁽¹⁾ Alternative equipment may be used pending availability and cost, but will be approved by the system designer to confirm equivalent specifications.

PRELIMINARY DISPOSAL FACILITY IDENTIFICATION WASTE DISPOSAL, INC. SUPERFUND SITE

RESIDUAL	WASTE DISPOSAL ⁽¹⁾	PCB DISPOSAL CRITERIA
Nonhazardous Liquids	Crosby and Overton Long Beach, California EPA ID No. CAD 028 409 019	<10 ppb
Nonhazardous Oils/Emulsions	Waste Management, Inc. Azusa, California EPA ID No. CAD 008 302 903	<50 ppm
	Safety-Kleen Recycling Westmorland, California EPA ID No. CAD 000 633 164	<6 ppm
Hazardous Oils/Liquids	U.S. Ecology, Inc. Beatty, Nevada EPA ID No. NVT 3300100000	None ⁽²⁾
	Salesco Systems Phoenix, Arizona EPA ID No. AZD 983473539	None ⁽²⁾

94-256/RPTS/DrTMNo13ReLiRe (8/3/00/rm)

ppb = parts per billion ppm = parts per million

- (1) Final disposal facility selection will be completed based on availability and the waste characteristics. EPA will be informed of any changes to the above list prior to disposal activities.
- (2) Disposal Facility will accept any PCB concentrations.



SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE

Page 1 of 10

WELL NO. (phase)	VOLATILE ((EPA METI	PCBs (EPA METHODS 3510/8082)			METALS			TOTAL PETROLEUM HYDROCARBONS (EPA METHOD 418.1) (ppm)		PH			
	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
RW-1 ⁽⁴⁾													
RW-2	Acetone	0.17	ND		ND	ND	Aluminum	11	0.39	33	19	9.8	7.6
(aqueous)	Benzene	0.26	0.044				Antimony	0.015	ND				
	cis-1,2-Dichloroethene	ND	0.012				Arsenic	0.4	0.13				
	Ethylbenzene	0.048	0.0065				Barium	0.73	0.14				
	4-Methyl-2-Pentanone	ND	0.0067				Calcium	470	48				
	Tetrachloroethene	ND	0.0024				Chromium, total	0.036	0.021				
	Toluene	0.054	0.0049				Cobalt	0.018	0.012			}	
	Trichloroethene	ND	0.0021				Iron	17	1.2				
	Vinyl chloride	0.092	0.0089				Lead	0.12	0.078				
	o-Xylene	ND	0.0039				Magnesium	21	5.7				
	m, p-Xylenes	ND	0.0057				Manganese	1.5	0.55				
							Nickel	0.11	0.056	1			
							Selenium	0.01	ND	1			
							Sodium	350	450	_			
							Vanadium	0.073	0.19	1			
							Zinc	0.4	0.16				
RW-3	Benzene	-	0.7		-	ND	Aluminum	ļ <u>-</u>	0.66		19	-	9
(aqueous)	cis-1,2-Dichloroethene	-	0.29	ļ			Arsenic		0.096	_			
	Ethylbenzene		0.53			ļ	Barium	-	0.1	_			
	Tetrachloroethene	-	4				Calcium		40	1			
	Toluene		1.5				Chromium, total	-	0.013	4			
	Trichloroethene		0.65				Iron		1.1	_			
	o-Xylene		0.93			ļ	Lead		0.039	4			
	m, p-Xylenes	-	2.2	ļ			Magnesium		1.9	1			
					ļ		Manganese		0.081	_			
		ļ		ļ		ļ	Nickel	-	0.074	1			
							Sodium		820	_			
				ļ	ļ		Vanadium		0.053	_			
	<u> </u>			<u> </u>			Zinc		0.052	<u> </u>			

Various EPA methods are used for the metal analysis.
 Pre-pumping analytical results.
 Post-pumping analytical results.
 RW-l is a dry well and was not sampled.

^{– =} Not analyzed.ND = Not detected.

SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 2 of 10

													Page 2 of 10
WELL NO.	VOLATILE ((EPA METI	PCBs (EPA METHODS 3510/8082)			METALS (EPA METHOD) ⁽¹⁾			TOTAL PETROLEUM HYDROCARBONS (EPA METHOD 418.1) (ppm)		PH			
(phase)	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
RW-3	Benzene	170	14	PCB-1260	5.5	6.2	Barium	3.2	-		_		_
(oil)	cis-1,2-Dichloroethene	ND	8.8				Calcium	110	-				
	Ethylbenzene	390	35				Iron	11					
	Tetrachloroethene	970	660				Lead	5.1					
	Toluene	1,000	81				Nickel	7.4					
<u> </u>	Trichloroethene	130	88				Vanadium	3.9			 		
	o-Xylene	ND	68										
	m, p-Xylenes	ND	170										
RW-4	Acetone	ND	1.9	PCB-1260	0.0028	0.041	Aluminum	ND	0.48	160,000	16	9.2	7.3
(aqueous)	Benzene	ND	0.65				Arsenic	0.032	0.38				
	2-Butanone	ND	0.47				Barium	0.075	0.21				
	cis-1,2-Dichloroethene	ND	0.16				Calcium	1.9	36				
	Ethylbenzene	ND	0.17				Chromium, total	0.0058	0.0087	}		}	
	4-Methyl-2-Pentanone	ND	0.54				Cobalt	ND	0.0058				
i	Tetrachloroethene	ND	0.066				Iron	0.92	1.2				
	Toluene	ND	0.91				Lead	0.82	0.042				
	Trichloroethene	ND	0.17				Magnesium	0.16	5				
	Vinyl chloride	ND	0.079				Manganese	ND	0.63				
	o-Xylene	ND	0.35				Nickel	ND	0.085				
•	m, p-Xylenes	ND	0.65				Sodium	8.4	780				
							Vanadium	ND	0.031				
							Zinc	0.056	0.061				
RW-4	Benzene	68	100	PCB-1260	48	28	Barium	2.9		-	_	-	-
(oil)	Ethylbenzene	210	370				Cadmium	77					
	Tetrachloroethene	130	290				Lead	5.6		_			
	Toluene	420	630				Nickel	1]			
1	Trichloroethene	77	160				Sodium	370	_	1			
	o-Xylene	ND	750]			
	m, p-Xylenes	ND	1,400										

 ⁽¹⁾ Various EPA methods are used for the metal analysis.
 (2) Pre-pumping analytical results.
 (3) Best-pumping analytical results.

- = Not analyzed.ND = Not detected.

SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 3 of 10

WELL NO. (phase)	VOLATILE ORGANICS (EPA METHOD 8260)			PCBs (EPA METHODS 3510/8082)			METALS (EPA METHOD) ⁽¹⁾			TOTAL PETROLEUM HYDROCARBONS (EPA METHOD 418.1) (ppm)		PH	
	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
RW-5	Benzene	0.39	0.46		ND	ND	Aluminum	0.76	_	32	_	8.1	-
(aqueous)	Ethylbenzene	0.15	0.098				Arsenic	0.077					
	Toluene	0.22	0.42				Barium	0.18	_]			
	o-Xylene	ND	0.24				Calcium	59					
	m, p-Xylenes	ND	0.49				Cobalt	0.014	_]			
							Iron	1.3]			
							Lead	0.007	_	_			
							Magnesium	21	_				
							Manganese	1.1	_				
							Nickel	0.021	-				i
							Sodium	430	-] [
							Zinc	0.029	_				
RW-6	Benzene	-	9.3	PCB-1242		0.0033	Aluminum		0.93	_	1,300	-	11
(aqueous)	2-Butanone		32	PCB-1250		0.0036	Antimony		0.021				
	cis-1,2-Dichloroethene	**	3.2				Arsenic		0.17				
	Ethylbenzene		2.5				Barium		0.2				
	4-Methyl-2 pentanone		32				Calcium		96				
	Tetrachloroethene	-	0.7				Chromium, total		0.0083			Į.	
	Toluene	-	22				Iron		0.98				
1	Trichloroethene	_	0.95				Lead		0.02				
	Vinyl chloride		1.3				Magnesium	_	0.2			1	
	o-Xylene		4.2				Nickel		0.33	1			
	m, p-Xylenes	-	11				Selenium		0.0081	1			
							Sodium		1,200	<u> </u>			
							Vanadium	-	0.024	1			
							Zinc		0.04	<u> </u>			



 ⁽¹⁾ Various EPA methods are used for the metal analysis.
 (2) Pre-pumping analytical results.
 (3) Best-pumping analytical results.

^{– =} Not analyzed.ND = Not detected.

SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 4 of 10

WELL NO. (phase)	VOLATILE ((EPA METI			PCBs (EPA METHODS 3510/8082)			M (EPA !	METALS METHOD) (1)	HYDROC (EPA METI	TROLEUM CARBONS HOD 418.1) om)	PH	
(priase)	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
RW-6	Benzene	190		PCB-1260	8.5	-	Barium	7.8	-	-	-		-
(oil)	Ethylbenzene	420	-				Calcium	210	_			 	
	Toluene	1,000					Iron	19	<u> </u>				
							Lead	9.3	-	[
						· · · · · · · · · · · · · · · · · · ·	Nickel	14					
							Vanadium	7.2					
RW-7	Acetone	0.51	1.1		ND	ND	Aluminum	2.0	0.54	62	3,700	10.6	9.9
(aqueous)	Benzene	0.45	0.64				Antimony	ND	0.011]			
	2-Butanone	0.67	1.6				Arsenic	0.24	0.25				
	cis-1,2-Dichloroethene	ND	1.3				Barium	0.12	0.087	}			
	Ethylbenzene	0.089	0.15				Calcium	64	21	<u> </u>	İ		
	4-Methyl-2 pentanone	0.77	1.5				Chromium, total	ND	0.079				
	Tetrachloroethene	0.063	0.061				Iron	2.9	0.94				
	Toluene	0.67	1.3				Lead	0.02	0.037]			
	Trichloroethene	0.31	0.24				Magnesium	4.6	1.1				
	Vinyl chloride	0.37	0.22	<u> </u>			Manganese	0.2	0.044]		}	
	o-Xylene	ND	0.33	<u> </u>			Nickel	0.056	0.12		į		
	m, p-Xylenes	ND	0.85	<u></u>			Sodium	710	840]			
							Vanadium	0.055	0.16				
							Zinc	0.058	0.058			<u> </u>	
RW-8	Acetone	0.69	0.48	PCB-1242	ND	0.0011	Aluminum	0.22	2.9	110	370	10	11.4
(aqueous)	Benzene	0.32	0.42	PCB-1248	0.0039	ND	Antimony	ND	0.015	<u> </u>		ļ	
	2-Butanone	0.5	0.54	PCB-1260	0.0085	0.0019	Arsenic	0.021	0.28				
	cis-1,2-Dichloroethene	ND	0.26				Barium	0.044	0.11]			
	Ethylbenzene	0.078	0.12				Calcium	53	80]			
	4-Methyl-2-pentanone	0.22	0.65				Iron	0.27	1.2				
	Toluene	0.28	0.83				Lead	ND	0.03]			
	Vinyl chloride	0.15	0.15				Magnesium	46	0.25]			
	o-Xylene	ND	0.25				Manganese	0.076	ND]			
	m, p-Xylenes	ND	0.63				Nickel	ND	0.2		<u> </u>		

 ⁽¹⁾ Various EPA methods are used for the metal analysis.
 (2) Pre-pumping analytical results.
 (3) Best-pumping analytical results.

– = Not analyzed.ND = Not detected.



SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 5 of 10

WELL NO. (phase)	VOLATILE ((EPA METH		OD 8260)		PCBs ETHODS 35	10/8082)	M (EPA N	IETALS METHOD) ⁽	l)	TOTAL PETROLEUM HYDROCARBONS (EPA METHOD 418.1 (ppm)		PH	
(pitase)	Constituent (ppm)	4/30/99(2)	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
RW-8							Sodium	550	950				
(aqueous)							Vanadium	0.017	0.05				:
(Cont'd)							Zinc	0.04	0.035				
RW-9	Acetone	0.8	ND	PCB-1248	ND	0.051	Aluminum	0.36	0.79	85	22	9.9	10.7
(aqueous)	Benzene	0.54	ND	PCB-1260	ND	0.06	Antimony	0.031	0.016				
	2-Butanone	0.26	ND				Arsenic	0.24	0.54				
	Ethylbenzene	0.073	ND				Barium	0.071	0.11				
	4-Methyl-2-pentanone	0.15	ND				Calcium	19	26	ļ			
	Toluene	0.6	1.6				Chromium, total	ND	0.018				
	Trichloroethene	0.042	ND				Cobalt	0.029	0.048				
	Vinyl chloride	0.53	ND				Iron	0.6	1.7	Ì			
	o-Xylene	ND	<u> </u>				Lead	0.02	0.16	ļ			
	m, p-Xylenes	ND	2.6				Magnesium	4.3	0.37			1	
							Manganese	0.037	0.039				
							Nickel	0.15	0.29	}		t .	
							Sodium	520	710]			
							Vanadium	0.06	0.14				
							Zinc	0.04	0.099				
RW-10	Acetone	0.27	0.21		ND	ND	Aluminum	0.97	0.31	30	560	8.7	10
(aqueous)	Benzene	0.21	0.25				Antimony	0.023	0.016				
	2-Butanone	0.18	0.098				Arsenic	0.084	0.33				
Ì	cis-1,2-Dichloroethene	ND	0.26			1	Barium	0.11	0.06]			
	trans-1,2-Dichloroethene	ND	0.012				Calcium	46	110				
	Ethylbenzene	0.061	0.045				Chromium, total	ND	0.0086			}	
	4-Methyl-2-pentanone	0.067	0.079				Iron	1.3	0.69				
1	Toluene	0.32	0.23				Lead	0.051	0.012	}			
	Vinyl chloride	0.13	0.17				Magnesium	2.7	0.7				
	o-Xylene	ND	0.088				Manganese	0.062	0.02]			
	m, p-Xylenes	ND	0.18				Nickel	0.088	0.064]			

 ⁽¹⁾ Various EPA methods are used for the metal analysis.
 (2) Pre-pumping analytical results.
 (3) Best-pumping analytical results.

– = Not analyzed.ND = Not detected.



SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 6 of 10

WELL NO. (phase)		ORGANICS HOD 8260)		(EPA ME	PCBs ETHODS 35	10/8082)	N (EPA N	IETALS METHOD) ⁽	1)	TOTAL PETROLEUM HYDROCARBONS (EPA METHOD 418.1 (ppm)		PH	
(prase)	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
RW-10							Sodium	820	900				
(aqueous)							Vanadium	0.039	0.13			 	
(Cont'd)							Zinc	0.068	0.044				
PB-2	Benzene	0.29	ND	PCB-1248	ND	0.036	<u>Aluminum</u>	0.88	0.94	94	25	8.5	7.4
(aqueous)	Ethylbenzene	0.43	ND	PCB-1260	ND	0.067	Arsenic	0.1	0.082	}	}	 	1
	Toluene	0.13	1.0				Barium	0.083	0.32			ĺ	
L	m, p-Xylenes	ND	2.3				Calcium	32	44]			
							Chromium, total	ND	0.036	l]	Ì
							Cobalt	0.013	ND	<u> </u>	}	1	
							Iron	1.4	3.8	1		ì	
<u> </u>							Lead	ND_	0.064	1		ļ	ļ
i L							Magnesium	4.1	8.3	j		ĺ	
							Manganese	0.16	0.25]			
<u> </u>		<u> </u>					Nickel	0.031	0.069			•	
							Sodium	570	1,100	1			
							Thallium	0.0074	ND		ļ	l	
Ŀ							Vanadium	0.074	0.12	1		}	
							Zinc	0.064	0.096				
PB-2	Ethylbenzene	74	-		ND		Aluminum	5.8		<u> </u>	-	-	-
(oil)							Calcium	84		1	ļ	ļ	
<u> </u>							Iron	12				l	
]		ļ					Magnesium						
							Sodium	730					
PB-4	Benzene	0.11	0.15	PCB-1248	ND	0.002	Aluminum	1.6	1.8	320	7.1	7.2	7
(aqueous)	2-Butanone	0.14	ND	PCB-1260	ND	0.0021	Arsenic	ND	0.038	1			
	Ethylbenzene	ND	0.088	ļ			Barium	ND	0.13	1			
	Toluene	ND	0.16	ļ			Calcium	290	330	1			
	Vinyl Chloride	0.036	ND				Chromium, total		0.0094	1			
!	o-Xylene	ND	0.14				Iron	5.1	20	1			
	m, p-Xylenes	ND	0.29	<u></u> _			Lead	0.021	0.069	<u> </u>			

 ⁽¹⁾ Various EPA methods are used for the metal analysis.
 (2) Pre-pumping analytical results.
 (3) Best-pumping analytical results.

- = Not analyzed.ND = Not detected.



SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 7 of 10

WELL NO. (phase)	VOLATILE ((EPA METI			PCBs (EPA METHODS 3510/8082)			M (EPA N	IETALS METHOD) ⁽	t)	TOTAL PETROLEUM HYDROCARBONS (EPA METHOD 418.1) (ppm)		PH	
(pitase)	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99(2)	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
PB-4							Magnesium	99	100				
(aqueous)							Manganese	0.48	1.1				
(Cont'd)							Nickel	ND	0.021	j			
							Selenium	0.008	0.0052				
							Sodium	1,200	1,200				
							Vanadium	0.029	0.025				
							Zinc	0.092	0.069				
PB-6	Acetone	ND	0.033		ND	ND	Aluminum	7.6	0.18	32	38	8.1	9.7
(aqueous)	Benzene	0.017	0.042				Arsenic	0.066	0.053				
	2-Butanone	ND	0.011				Barium	0.26	0.096			İ	
	cis-1,2-Dichloroethene	ND	0.035				Calcium	200	130			ŀ	
	trans-1,2-Dichloroethene	0.0022	0.0047				Chromium, total	0.017	ND				
1	Ethylbenzene	0.0076	0.0072				Iron	11	0.32				
	4-Methyl-2-pentanone	ND	0.017				Lead	0.075	0.0094				
	Toluene_	0.0032	0.19				Magnesium	18	7.1				
	Vinyl chloride	0.039	0.96				Manganese	0.25	0.036				
	o-Xylene	ND	0.0081				Nickel	0.024	0.019				
	m, p-Xylenes	ND	0.013				Sodium	770	810				
							Vanadium	0.045	0.038				
							Zinc	0.14	0.031				
PB-8	Acetone	_	0.5	PCB-1248		0.069	Aluminum		73	_	14	-	6.5
(aqueous)	Benzene		0.2	PCB-1260	-	0.12	Antimony		0.014				
	2-Butanone		0.42				Arsenic	-	0.29				
	cis-1,2-Dichloroethene		0.63				Barium		2.9				
	Ethylbenzene		0.15				Beryllium	-	0.0023				
	4-Methyl-2-pentanone	-	0.23				Cadmium	_	0.023				
	Toluene	_	0.23				Calcium	_	150				
	Vinyl chloride	-	0.68				Chromium, total	-	0.41				
	o-Xylene	-	0.24				Cobalt		0.057			}	
	m, p-Xylenes	_	0.55				Iron	-	100				

Various EPA methods are used for the metal analysis.
 Pre-pumping analytical results.
 Best-pumping analytical results.



^{– =} Not analyzed.ND = Not detected.

SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

						(Contini	ucu)						Page 8 of 10
WELL NO. (phase)	VOLATILE (EPA MET			PCBs (EPA METHODS 3510/8082)			M (EPA I	IETALS METHOD) ⁽	1)	TOTAL PETROLEUM HYDROCARBONS (EPA METHOD 418.1) (ppm)		PH	
(priase)	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
PB-8							Lead		1.9				
(aqueous)							Magnesium	-	40]		ļ	ĺ
(Cont'd)							Manganese	_	_6.2]			
Į							Mercury		0.00021]			
							Nickel	-	0.24				
							Selenium		0.026]			
							Sodium	-	680			ļ	
ļ							Vanadium	_	0.5				
				<u> </u>			Zinc		1.8				
PB-8	Ethylbenzene	160	-	PCB-1248	32		Aluminum	490		-	-	-	-
(oil)	Toluene	81		PCB-1260	75		Arsenic	8					
							Barium	84				ļ	
							Calcium	1,500			İ		
							Chromium, total			[
							Cobalt	3.9					
		<u> </u>					Iron	1,000					
ļ		ļ					Lead	29				l	1
		ļ		ļ			Magnesium	85	-				
				ļ			Manganese	55	-				
							Nickel	210		4			
							Sodium	14					
				L			Vanadium	16		Į			
		ļ					Zinc	35		ļ <u> </u>			
EX-2	Benzene	0.9	0.78	PCB-1248	0.0036	0.015	Aluminum	0.27	1.7	22,000	31	8.1	7.1
(aqueous)	cis-1,2-Dichloroethene	ND	0.85	PCB-1260	0.0057	0.02	Arsenic	0.12	0.071	1		1	
	Ethylbenzene	0.24	0.29	ļ	<u></u>	ļ	Barium	0.16	0.54	_			
	4-Methyl-2-pentanone	10	3.6			<u> </u>	Calcium	18	52	.[
	Toluene	1 1	0.88				Chromium, total		0.14	1			
L	Vinyl chloride	0.99	ND	1	1		Cobalt	110.0	0.01		1	1	

 ⁽¹⁾ Various EPA methods are used for the metal analysis.
 (2) Pre-pumping analytical results.
 (3) Best-pumping analytical results.

= Not analyzed.ND = Not detected.



SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 9 of 10

						 7						r—-	Page 9 of 10
WELL NO. (phase)	VOLATILE ((EPA MET)			(ЕРА МЕ	PCBs ETHODS 35	10/8082)	M (EPA 1	IETALS METHOD) (1)	HYDROC	TROLEUM ARBONS HOD 418.1) pm)	PH	
(рлазс)	Constituent (ppm)	4/30/99(2)	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
EX-2	o-Xylene	ND	0.43				Iron	0.97	9.9				
(aqueous)	m, p-Xylenes	ND	0.87				Lead	0.025	0.08				
(Cont'd)							Magnesium	3.4	11			ł	
							Manganese	0.13	0.69				
]							Nickel	0.1	0.17]		Ì	
							Sodium	1,000	1,000	<u> </u>		}	
							Vanadium	0.16	0.85				
							Zinc	0.027	0.21				
EX-2	Benzene	100	160	PCB-1248	39	35	Calcium	32	_	-	-	-	_ :
(oil)	cis-1,2-Dichloroethene	ND	75	PCB-1260	65	47	Iron	7.2		1			
	Ethylbenzene	210	440				Nickel	1.8	-				
1 5	Toluene	410	570				Sodium	900		1			
1 1	Trichloroethene	ND	33										
	o-Xylene	ND	650							1			
	m. p-Xylenes	ND	1,300										
EX-4	Acetone	ND	0.62		ND_	ND	Aluminum	0.36		60	_	7.7	-
(aqueous)	Benzene	0.14	0.54				Arsenic	0.12]	Ì		
!	2-Butanone	ND	0.35				Barium	0.28		1	}	ļ	
	cis-1,2-Dichloroethene	ND	0.2	ļ. <u>.</u>			Calcium	56	-	1			
	Ethylbenzene	0.042	0.1				Chromium, total]]	Ì	
<u> </u>	4-Methyl-2-Pentanone	ND	0.14				lron	6.1	<u> </u>	1	1		
i	Tetrachloroethene	ND	0.011				Magnesium	11		<u> </u>			
Ì	Toluene	0.046	0.47				Manganese	1.5	<u> </u>	1			
	Trichloroethene	0.034	0.015				Nickel	0.034			1		
]	Vinyl chloride	0.034	0.15	ļ			Sodium	800		1			
	o-Xylene	ND	0.18				Vanadium	0.22					
	m, p-Xylenes	ND	0.42				Zinc	0.045	-				
TT-II-1	Acetone	5.4	2.1		ND	ND	Aluminum	0.43	1.9	98	8.9	9,0	11.4
(aqueous)	Benzene	1.4	1.8				Antimony	ND	0.019	1			
	2-Butanone	20	8.3	<u> </u>			Arsenic	0.2	0.11			<u> </u>	

 ⁽¹⁾ Various EPA methods are used for the metal analysis.
 (2) Pre-pumping analytical results.
 (3) Best-pumping analytical results.

– = Not analyzed.ND = Not detected.



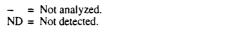
SUMMARY OF TM NO. 13 DETECTED ANALYTICAL RESULTS OF EXTRACTION WELLS WASTE DISPOSAL, INC. SUPERFUND SITE

(Continued)

Page 10 of 10

WELL NO. (phase)	VOLATILE ((EPA METI		i	(EPA MI	PCBs ETHODS 35	10/8082)	M (EPA I	IETALS METHOD) ⁽	1)	HYDROC (EPA MET	TROLEUM CARBONS HOD 418.1) om)	PH	
(priase)	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	Constituent (ppm)	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾	4/30/99 ⁽²⁾	6/10/99 ⁽³⁾
TT-II-I	cis-1,2-Dichloroethene	ND	2.8				Barium	0.15	0.24				
(aqueous)	4-Methyl-2-pentanone	25	11				Calcium	35	130	}	,	1	
(Cont'd)	Toluene	3.6	4.0				Cobalt	0.012	0.02		ļ	ļ	
	Trichloroethene	ND_	2.2				Iron	0.47	0.44]			
	o-Xylene	ND	0.41				Lead	ND	0.0096]			
	m, p-Xylenes	ND	0.99				Magnesium	0.99	0.058]			
							Manganese	0.073	ND				
							Nickel	0.2	0.41				
					h		Selenium	ND	0.0053	_		ļ	
ľ							Sodium	1,000	1,100		1		
							Vanadium	0.23	0.023				
							Zinc	0.038	0.028				
TT-II-2	Benzene	0.0081	0.11		ND	ND	Aluminum	3.9	0.15	24	11	7.7	7.2
(aqueous)	2-Butanone	ND	0.035				Antimony	ND	0.011				
	cis-1,2-Dichloroethene	ND	0.0094				Arsenic	0.095	0.14				
	Ethylbenzene	0.0042	0.016		· · · · · · · · · · · · · · · · · · ·		Barium	0.48	0.39				
	4-Methyl-2-pentanone	ND	0.033	L			Calcium	130	210	}			
	Toluene	ND	0.017				Chromium, total	0.0064	0.011]			
	Vinyl chloride	ND	0.008				lron	6.8	4.2		ļ		
Ì	o-Xylene	ND	0.0098				Lead	ND	0.011				
	m, p-Xylenes	ND	0.017				Magnesium	23	35]
							Manganese	6.8	5.2	<u> </u>			
							Mercury	0.0016	ND				
							Nickel	0.023	0.02	j			
							Selenium	ND	0.0092				
							Sodium	520	500				
							Vanadium	0.056	0.058]		}	
							_ Zinc	0.056	0.043				

94-256/RPTS/DrTMNo13ReLiRe (8/3/00/rm)





 ⁽¹⁾ Various EPA methods are used for the metal analysis.
 (2) Pre-pumping analytical results.
 (3) Best-pumping analytical results.

TABLE 5 SUMMARY OF TM NO. 13 TREATED WATER LABORATORY DATA AT TREATMENT SYSTEM WASTE DISPOSAL, INC. SUPERFUND SITE

Analysis (Test Method)	Constituent (ppm)	Treatment S	ystem Testing	Pre-Disposal Testing									
(Test Method)		5/26/99	5/27/99	6/3/99	6/28/99	7/28/99	9/28/99	11/22/99	1/21/00	3/28/00			
	Acetone	0.019	ND	ND	ND	ND	ND	ND	ND	ND			
	2-Butanone	0.014	ND	ND	ND	ND	ND	ND	ND	ND			
	Benzene	ND	ND	ND	ND	ND	ND	ND	0.0095	ND			
	Carbon Disulfide	0.008	ND	ND	ND	ND	ND	ND	ND	ND			
	4-Methyl-2-pentanone	0.0056	ND	ND	ND	ND	ND	ND	ND	ND			
VOLATILE ORGANICS (EPA METHOD 8260)	cis-1,2-Dichloroethene	ND	ND	ND	ND	0.051	0.0021	0.26	0.030	0.028			
(LI A MILTHOD 8200)	Vinyl Chloride	ND	ND	ND	ND	0.10	ND	ND	0.026	ND			
	1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.0021	ND	0.0056	ND			
	Toluene	ND	ND	ND	ND	ND	ND	ND	0.0059	ND			
	1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	0.002	ND			
	m,p-Xylenes	ND	ND	ND	ND	ND	ND	ND	0.0038	ND			
PCBs (EPA METHODS 3510/8082)	PCBs	ND	ND	ND	ND	ND	ND	ND	ND	ND			
	Antimony	NA	NA	0.012	ND	ND	0.026	ND	0.016	0.014			
	Arsenic	NA	NA	0.14	0.2	0.17	0.3	0.0062	0.27	0.3			
	Barium	NA	NA	0.061	0.064	0.071	0.068	0.044	0.05	0.038			
	Chromium, total	NA	NA	ND	ND	0.0057	0.011	ND	0.016	0.016			
	Copper	NA	NA	0.031	0.023	0.02	0.014	0.033	ND	0.017			
METALO	Lead	NA	NA	0.0072	ND	0.0068	0.0066	ND	0.011	ND			
METALS	Mercury	NA	NA	ND	ND	ND	ND	0.00025	0.00021	ND			
(EPA METHOD ⁽¹⁾)	Molybdenum	NA	NA	0.1	0.2	0.067	0.15	ND	0.25	0.25			
	Nickel	NA	NA	0.049	0.052	0.085	0.073	ND	0.099	0.11			
	Selenium	NA	NA	ND	ND	0.0058	ND	ND	ND	0.0079			
	Thallium	NA	NA	0.0081	ND	ND	ND	ND	ND	ND			
	Vanadium	NA	NA	0.048	0.028	0.11	0.095	0.047	0.11	0.092			
	Zinc	NA	NA	0.057	0.046	0.036	0.026	0.054	0.026	0.024			
	4-Methylphenol	NA	NA	ND	ND	0.19	ND	0.12	ND	0.12			
SEMI-VOLATILE ORGANICS	Phenol	NA	NA	ND	ND	0.85	ND	0.21	0.29	0.18			
(EPA METHODS 3520/8270)	2,4-Dimethylphenol	NA	NA	ND	ND	ND	ND	ND	ND	0.11			
	2-Methylphenol	NA	NA	ND	ND	ND	ND	ND	ND	0.062			
TOTAL PETROLEUM HYDROCARBONS (EPA METHOD 418.1)	ТРН	NA	NA	14	16	54	32	61	22	1.8			

⁽¹⁾ Various EPA methods are used for the metal analysis.



NA = Not analyzed.

ND = Not detected.

TABLE 6 SUMMARY OF TM NO. 13 RECOVERED OIL LABORATORY DATA⁽¹⁾ AT TREATMENT SYSTEM WASTE DISPOSAL, INC. SUPERFUND SITE

Analysis (Test Method)	Constituent (ppm)	6/10/99	7/28/99	9/28/99	12/9/99
	Benzene	42	NA	NA	NA
	Ethylbenzene	220	NA	NA	NA
VOLATILE ORGANICS	Tetrachloroethene	86	NA	NA	NA
(EPA METHOD 8260)	Toluene	410	NA	NA	NA
<u> </u>	o-Xylene	390	NA	NA	NA
	m & p-xylene	1,100	NA	NA	NA
PCBs	Aroclor 1248	ND	28	16	21
(EPA METHODS 3510/8082)	Aroclor 1260	30	38	36	46
	Barium	9.8	NA	NA	NA
	Calcium	160	NA	NA	NA
	Chromium, total	3.1	NA	NA	NA
METALS	Iron	40	NA	NA	NA
(EPA METHOD ⁽²⁾)	Lead	5	NA NA	NA	NA
1	Manganese	1	NA	NA	NA
	Nickel	4.5	NA	NA	NA
	Vanadium	3.3	NA	NA	NA
SEMI-VOLATILE ORGANICS (EPA METHODS 3520/ 8270)	2-Methylnaphthalene	1,700	NA	NA	NA

94-256/RTPS/DrTMNo13RcLiRc(8/3/00/rm)*

NA = Not Analyzed.

ND = Not Detected.



⁽¹⁾ Prior to disposal, oil will be analyzed for the constituents indicated in TM No. 13 and as required for disposal.

⁽²⁾ Various EPA methods are used for the metal analysis.

TABLE 7 DAILY AND CUMULATIVE TOTALS OF WATER EXTRACTED WASTE DISPOSAL, INC. SUPERFUND SITE

Page 1 of 3

Date of Reading	Daily Total (Gallons)	Cumulative Total (Gallons)
5/26/99	758.90	758.90
5/27/99	1,444.82	2,203.72
5/28/99	1,106.44	3,310.16
6/1/99	2,517.08	5,827.24
6/2/99	2,913.76	8,741.00
6/3/99	1,779.00	10,520.00
6/4/99	1,240.00	11,760.00
6/5/99	2,515.00	14,275.00
6/6/99	1,465.00	15,740.00
6/7/99	991.00	16,731.00
6/8/99	869.00	17,600.00
6/9/99	523.00	18,123.00
6/10/99	1,197.00	19,320.00
6/11/99	1,159.00	20,479.00
6/15/99	561.00	21,040.00
6/16/99	1,560.00	22,600.00
6/17/99	1,230.00	23,830.00
6/18/99	933.00	24,763.00
6/21/99	2,659.50	27,422.50
6/22/99	791.00	28,213.50
6/24/99	1,617.00	29,830.00
6/25/99	713.00	30,543.00
6/28/99	2,205.00	32,748.00
6/29/99	655.50	33,403.50
7/2/99	2,073.50	35,477.00
7/7/99	834.50	36,311.50
7/12/99	3,367.00	39,678.50
7/14/99	205.00	39,883.50
7/21/99	628.00	40,511.50
7/22/99	1,492.00	42,003.50
7/23/99	1,210.00	43,213.50
7/26/99	1,894.00	45,107.50
7/28/99	1,417.50	46,525.00
7/30/99	1,360.50	47,885.50
8/6/99	3,728.00	51,613.50
8/9/99	1,302.50	52,916.00
8/12/99	1,133.34	54,049.34
8/17/99	764.60	54,813.94
8/19/99	1,240.00	56,053.94
8/23/99	1,615.20	57,669.14
8/27/99	1,688.80	59,357.94



TABLE 7 DAILY AND CUMULATIVE TOTALS OF WATER EXTRACTED WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

		Page 2 of 3
Date of Reading	Daily Total (Gallons)	Cumulative Total (Gallons)
8/31/99	166.00	59,523.94
9/2/99	794.00	60,317.94
9/3/99	868.00	61,185.94
9/7/99	2,445.00	63,630.94
9/10/99	620.00	64,250.94
9/13/99	565.50	64,816.44
9/15/99	315.80	65,132.24
9/17/99	282.90	65,415.14
9/27/99	815.80	66,230.94
9/28/99	805.00	67,035.94
9/29/99	478.50	67,514.44
10/1/99	1,296.50	68,810.94
10/4/99	1,340.00	70,150.94
10/6/99	991.80	71,142.74
10/8/99	958.20	72,100.94
10/11/99	1,209.60	73,310.54
10/14/99	1,206.40	74,516.94
10/20/99	1,974.80	76,491.74
10/22/99	887.00	77,378.74
10/25/99	113.00	77,491.74
10/27/99	114.70	77,606.44
10/29/99	494.50	78,100.94
11/5/99	658.30	78,759.24
11/8/99	401.70	79,160.94
11/12/99	2,141.00	81,301.94
11/15/99	1,163.00	82,464.94
11/17/99	814.30	83,279.24
11/19/99	863.20	84,142.44
11/22/99	835.20	84,977.64
11/24/99	916.50	85,894.14
12/3/99	1372.60	87,266.74
12/10/99	2584.20	89,850.94
12/13/99	950.00	90,800.94
12/15/99	690.00	91,490.94
12/16/99	346.25	91,837.19
12/17/99	510.95	92,348.14
12/20/99	1220.80	93,568.94
12/23/99	953.90	94,522.84
12/29/99	1426.10	95,948.94
1/3/00	1320.00	97,268.94
1/4/00	156.70	97,425.64



TABLE 7 DAILY AND CUMULATIVE TOTALS OF WATER EXTRACTED WASTE DISPOSAL, INC. SUPERFUND SITE

(Continued)

Date of Reading	Daily Total (Gallons)	Cumulative Total (Gallons)
1/7/00	1478.80	98,904.44
1/18/00	673.50	99,577.94
1/21/00	1299.00	100,876.94
1/24/00	932.50	101,809.44
1/26/00	529.50	102,338.94
1/28/00	612.50	102,951.44
1/31/00	793.10	103,744.54
2/2/00	485.90	104,230.44
2/4/00	584.50	104,814.94
2/8/00	951.50	105,766.44
2/11/00	739.50	106,505.94
2/14/00	635.50	107,141.44
2/18/00	947.50	108,088.94
2/21/00	715.00	108,803.94
2/24/00	827.00	109,630.94
2/28/00	827.20	110,458.14
3/3/00	1107.80	111,565.94
3/7/00	1035.20	112,601.14
3/10/00	807.80	113,408.94
3/13/00	660.50	114,069.44
3/17/00	835.50	114,904.94
3/20/00	472.50	115,377.44
3/28/00	1271.60	116,649.04
3/31/00	536.20	117,185.24
4/4/00	661.70	117,846.94
4/7/00	809.00	118,655.94
4/11/00	1002.50	119,658.44
4/14/00	724.70	120,383.14
4/18/00	1085.02	121,468.16
4/21/00	731.42	122,199.58
4/25/00	564.50	122,764.08
4/28/00	792.50	123,556.58
5/1/00	673.50	124,230.08
5/5/00	931.20	125,161.28
5/9/00	969.30	126,130.58
5/12/00	682.00	126,812.58
5/17/00	988.50	127,801.08
5/19/00	305.50	128,106.58
5/26/00	572.90	128,679.48
5/30/00	366.10	129,045.58
6/2/00	303.50	129,349.08

Customer-Focused Solutions

TABLE 8A GALLONS OF WATER EXTRACTED PER WELL WASTE DISPOSAL, INC. SUPERFUND SITE

Page 1 of 3

Data of Day Jing	RW-1 ⁽¹⁾	RW-2	RW-3	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-10	TT-II-1	TT-II-2	PB-2	PB-4	PB-6	PB-8	EX-2	EX-4
Date of Reading	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons
5/26/99		0.00	0.00	0.00	4.80	0.00	0.00	50.85	51.00	638.25	0.00	0.00	0.00	14.00	0.00	0.00	0.00	0.00
5/27/99		11.10	0.00	0.00	3.00	0.00	0.00	207.60	22.05	629.10	0.00	0.00	0.00	0.00	571.97	0.00	0.00	0.00
5/28/99		0.00	0.00	0.00	3.00	0.00	0.15	303.90	13.65	461.85	0.00	0.00	14.14	0.21	309.54	0.00	0.00	0.00
6/1/99		32.40	0.00	0.00	10.95	0.00	0.30	344.40	0.00	913.20	0.00	608.23	16.94	0.00	590.66	0.00	0.00	0.00
6/2/99		0.00	64.05	54.00	4.05	0.00	617.40	89.25	1.35	514.35	649.18	0.00	15.54	11.55	446.74	70.77	307.80	67.20
6/3/99		12.45	14.28	13.45	0.00	0.00	222.27	1.16	1.74	555.19	42.28	0.00	1.33	8.54	897.47	0.00	0.91	8.80
6/4/99		7.19	4.78	4.16	2.34	87.30	117.31	21.47	25.15	3.72	0.36	345.37	16.02	5.53	540.74	49.81	4.33	4.30
6/5/99		0.00	5.88	5.00	1.59	335.10	427.77	40.95	15.53	737.34	194.25	49.19	51.02	5.77	561.87	77.96	1.94	3.60
6/6/99		8.70	4.45	3.35	1.31	204.41	142.95	30.18	8.80	533.33	32.18	46.64	32.65	3.93	375.18	33.17	3.25	0.47
6/7/99		4.78	3.13	2.39	0.95	128.01	81.49	22.79	2.99	391.04	26.09	22.74	22.84	2.59	237.90	39.45	1.49	0.35
6/8/95		2.88	2.45	1.89	0.84	101.75	61.60	18.86	190.20	351.82	17.77	35.23	18.86	2.02	49.73	11.92	0.99	0.24
6/9/99		3.71	3.04	2.21	1.13	118.50	61.81	24.61	3.17	209.51	21.90	24.15	20.65	2.13	0.00	24.90	1.29	0.29
6/10/99	+-	4.53	3.52	2.63	1.17	132.7	68.42	30.24	11.74	501.83	26.66	23.48	28.56	2.79	343.48	12.46	2.46	0.34
6/11/99		4.22	3.51	2.41	1.53	119.61	62.77	21.49	11.62	505.14	26.81	21.87	32.07	2.52	338.06	4.93	0.05	0.38
6/15/99		7.49	9.51	7.24	2.27	0.00	0.00	78.91	37.41	149.82	0.00	67.64	47.04	6.42	28.72	113.11	4.28	1.13
6/16/66		4.00	0.59	2.03	1.11	107.49	40.57	40.11	9.90	539.42	131.28	137.12	35.52	2.03	424.53	80.42	3.47	0.39
6/17/99		3.42	5.41	2.05	0.97	94.62	200.36	36.29	7.75	422.36	25.07	25.69	26.09	1.82	349.10	27.46	1.20	0.34
6/18/99		3.81	4.46	1.94	1.23	78.10	72.99	33.04	0.06	346.93	22.43	25.02	21.40	1.68	281.76	37.82	0.06	0.26
6/21/99		11.21	13.25	5.60	3.16	189.43	152.90	72.24	58.95	1,245.38	56.96	72.55	53.24	4.38	635.27	84.06	0.10	0.82
6/22/99	l 	1.90	2.35	0.95	0.58	100.52	22.28	31.15	1.66	383.45	8.98	0.00	8.76	0.71	212.10	13.25	2.22	0.13
6/24/99		1.02	5.30	2.14	1.32	219.38	52.06	67.62	5.43	745.65	23.81	42.74	20.91	1.48	396.66	29.57	1.58	0.33
6/25/99		2.86	1.06	0.43	0.34	101.78	10.19	41.93	4.31	341.20	4.46	0.00	3.65	0.28	193.80	6.10	0.56	0.06
6/28/99		15.08	18.83	7.29	5.72	205.24	197.55	84.49	20.70	625.40	95.62	148.65	79.35	5.82	551.34	135.34	7.20	1.38
6/29/99		5.58	6.05	2.68	2.09	60.90	72.01	22.33	6.17	195.30	33.85	6.86	28.85	1.98	160.02	47.58	2.68	0.58
7/2/99	<u> </u>	16.04	17.95	7.46	7.16	183.33	199.00	84.14	16.64	600.40	94.41	142.32	79.38	5.65	468.12	142.72	7.16	1.61
7/7/99		7.00	8.07	6.49	4.46	114.80	114.82	82.32	8.13	10.50	81.51	103.24	32.18	3.44	198.66	53.63	4.35	0.90
7/12/99		15.30	10.71	5.57	4.89	692.02	165.18	183.61	4.89	1,098.95	68.54	89.90	62.82	5.67	841.14	110.38	6.45	0.98
7/14/99		0.95	3.37	1.12	1.21	22.12	44.00	15.54	8.90	26.85	13.05	22.13	11.67	2.51	10.74	17.55	2.25	1.04
7/21/99		0.98	0.65	0.65	1.38	115.43	17.90	38.64	2.07	254.90	12.11	19.49	3.36	0.31	151.44	8.11	0.54	0.05
7/22/99		0.00	13.24	8.97	8.65	279.44	172.84	113.68	9.43	305.55	157.80	0.00	55.66	4.20	281.58	68.76	10.52	1.68
7/23/99		15.26	5.88	2.58	2.29	138.88	83.83	61.60	4.23	279.95	34.18	155.27	52.88	1.93	315.00	53.24	2.36	0.64
7/26/99		0.00	0.00	0.00	0.00	424.74	41.61	123.42	3.89	728.95	21.44	16.07	26.72	0.00	480.18	26.99	0.00	0.00
7/28/99		0.00	0.00	0.00	0.00	248.34	29.82	80.70	3.14	583.10	19.88	13.54	19.33	0.00	399.60	20.06	0.00	0.00
7/30/99		7.52	9.93	6.81	14.26	452.92	42.21	52.32	4.10	373.84	46.65	59.18	26.37	3.20	223.48	27.35	9.41	0.94
8/6/99		0.00	0.00	0.00	0.00	695.70	106.15	259.98	10.42	1,325.05	137.79	35.90	71.38	0.00	1,014.96	70.67	0.00	0.00
8/9/99	<u> </u>	5.67	6.26	4.44	4.41	274.18	40.99	76.96	4.68	462.99	83.70	49.65	2.79	0.00	253.22	25.17	7.40	0.00
8/12/99		0.00	0.00	0.00	0.00	363.20	36.79	61.04	4.71	339.76	50.35	15.38	48.85	0.00	189.68	23.59	0.00	0.00
8/17/99		0.00	0.00	0.00	0.00	205.40	20.48	37.30	2.76	270.30	31.47	11.94	16.79	0.00	_155.30	12.86	0.00	0.00
8/19/99		0.00	0.00	0.00	0.00	125.70	70.88	85.00	9.59	501.85	16.62	43.00	34.46_	0.00	293.95	58.95	0.00	0.00
8/23/99		15.88	0.71	0.16	7.66	39.35	156.95	0.10	2.30	572.65	122.13	7.99	121.25	0.00	458.25	109.81	0.00	0.00
8/27/99		0.00	102.66	0.00	0.00	158.30	58.88	83.40	21.11	731.15	20.52	20.33	30.76	0.00	431.60	30.09	0.00	0.00
8/31/99		0.27	7.27	27.20	8.44	0.00	0.27	0.05	0.09	38.05	4.94	0.00	0.72	0.00	18.85	7.00	0.27	52.60

^{-- =} Not Monitored

This well was never pumped because it was a dry well after installation.

These wells were abandoned due to low production as part of TM No. 13 Addendum 1.

TABLE 8A GALLONS OF WATER EXTRACTED PER WELL WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 2 of 3

																		Page 2 of 3
Date of Reading	RW-1 ⁽¹⁾	RW-2	RW-3	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-10	TT-II-1	TT-II-2	PB-2	PB-4	PB-6	PB-8	EX-2	EX-4
Date of Reading	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)
9/2/99		0.54	7.07	0.80	4.76	21.10	28.56	1.25	0.72	423.75	31.69	0.03	0.00	0.00	247.60	4.66	10.52	10.95
9/3/99		0.23	12.08	0.23	5.14	24.25	187.67	56.05	18.73	330.55	24.17	0.08	6.49	0.00	148.65	42.97	4.83	5.89
9/7/99		0.00	0.00	0.00	0.00	39.85	411.14	88.25	108.67	627.05	143.89	0.00	267.25	0.00	392.30	339.75	0.00	26.85
9/10/99		0.00	0.00	0.00	0.00	0.05	31.74	86.35	2.45	149.90	13.51	0.00	18.40	0.00	293.60	21.71	0.00	2.28
9/13/99		6.44	14.38	3.28	3.42	42.97	37.88	10.40	11.91	245.54	9.74	0.00	15.96	0.00	140.05	14.88	2.66	6.02
9/15/99		0.00	0.00	0.00	0.00	6.65	38.15	9.03	1.45	89.99	10.12	0.00	13.91	0.00	129.12	15.78	0.00	1.61
9/17/99		0.00	0.00	0.00	0.00	0.00	45.19	5.24	9.41	0.08	17.07	0.00	21.46	4.00	152.32	25.49	0.00	2.64
9/27/99		0.00	0.00	0.00	0.00	0.00	0.00	23.54	19.19	224.54	9.05	0.00	39.47	0.00	0.00	0.00	0.00	0.00
9/28/99		22.91	23.42	16.24	8.94	121.34	66.37	117.88	11.14	175.72	98.77	0.00	32.87	0.00	56.75	20.63	18.35	13.67
9/29/99		0.00	0.00	0.00	0.00	166.11	37.34	20.36	2.99	123.36	7.77	0.00	16.45	0.00	79.46	22.96	0.00	1.69
10/1/99		0.00	0.00	0.00	0.00	304.08	80.30	62.04	10.14	453.42	27.88	0.00	55.28	0.00	240.80	56.82	0.00	5.75
10/4/99		0.00	0.00	0.00	0.00	194.68	76.51	50.94	14.83	622.11	32.64	0.00	50.03	0.00	248.00	44.29	0.00	5.98
10/6/99		0.00	0.00	0.00	0.00	128.87	45.22	32.35	8.74	526.98	30.51	0.00	29.37	0.00	158.13	27.52	0.00	4.13
10/8/99		0.00	0.00	0.00	0.00	131.03	88.22	_34.95	8.79	425.80	30.97	0.00	36.76	0.00	166.85	30.47	0.00	4.36
10/11/99		0.00	15.22	15.60	6.04	233.75	41.60	62.24	16.36	646.05	56.13	0.00	58.95	0.00	0.00	49.47	8.03	0.15
10/14/99		0.00	11.04	11.73	3.61	236.43	83.32	50.62	14.65	642.64	46.11	0.00	43.47	10.00	0.07	39.30	4.51	8.89
10/20/99		0.00	0.00	0.00	0.00	459.39	208.47	104.07	31.69	863.57	127.11	0.00	97.92	0.00	0.00	82.58	0.00	0.00
10/22/99		0.00	0.54	0.00	0.00	181.95	90.59	41.82	13.37	439.80	39.81	0.00	37.80	5.00	0.00	36.17	0.00	0.15
10/25/99		0.00	0.00	0.00	0.00	0.00	0.00	12.87	17.16	28.61	5.72	0.00	0.00	0.00	47.20	1.43	0.00	0.00
10/27/99		4.57	2.69	3.54	1.29	46.20	2.52	5.42	2.57	28.88	10.07	0.03	1.92	0.00	1.19	0.20	1.17	2.43
10/29/99	••	0.05	0.00	0.05	3.99	0.00	0.32	0.00	1.09	329.03	145.50	0.00	4.87	0.00	0.12	0.00	4.36	5.11
11/5/99		16.41	14.78	8.92	6.88	64.87	44.99	63.69	11.01	225.17	97.84	0.00	18.45	0.00	38.98	31.95	4.99	9.38
11/8/99	***	8.98	8.75	5.82	4.49	53.96	74.81	33.81	4.32	91.74	54.48	0.00	11.17	0.00	21.42	14.80	3.40	9.73
11/12/99		6.60	6.02	3.62	3.82	363.76	107.41	118.34	19.35	882.28	62.05	0.00	102.81	0.00	358.06	92.33	5.95	8.61
11/15/99		0.00	0.00	0.00	0.00	189.85	42.34	63.70	14.04	531.34	39.70	0.00	48.47	0.00	197.99	35.58	0.00	0.00
11/17/99		0.00	0.00	0.00	0.00	124.19	29.37	43.65	9.48	389.21	26.77	0.00	33.52	0.00	132.83	25.29	0.00	0.00
11/19/99		6.73	6.78	4.84	4.56	130.80	28.84	42.63	8.49	404.53	26.90	0.00	25.76	0.00	131.02	19.21	11.91	10.20
11/22/99		0.00	0.00	0.00	0.00	145.34	34.07	46.26	11.04	381.20	35.76	0.00	28.53	0.00	128.46	24.55	0.00	0.00
11/24/99		5.74	7.47	6.09	3.25	133.10	34.87	46.28	9.96	413.70	31.13	0.00	28.85	0.00	155.93	24.84	4.22	11.07
12/3/99		12.48	12.42	8.60	8.98	224.11	78.59	125.40	16.49	475.79	104.38	0.00	54.00	3.50	162.01	54.77	17.51	13.56
12/10/99		9.13	14.49	7.79	4.99	415.57	97.02	177.60	27.69	1,067.42	172.42	0.00	94.76	3.00	401.82	64.58	8.95	16.98
12/13/99		3.37	4.37	3.37	1.90	124.66	32.25	54.19	9.31	372.90	165.55	0.00	23.75	0.00	128.13	18.28	2.52	5.46
12/15/99		0.00	0.00	0.00	0.00	115.40	19.41	_37.17	6.15	240.60	0.00	0.00	17.07	0.00	86.38	11.12	0.00	0.00
12/16/99		0.00	0.00	0.00	0.00	8.34	6.02	11.11	1.83	76.11	0.00	0.00	6.63	0.00	25.93	3.46	0.00	0.00
12/17/99		0.00	0.00	0.00	0.00	0.00	8.24	15.56	2.54	126.74	0.00	0.00	9.86	0.00	35.94	5.91	0.00	0.00
12/20/99		2.67	3.27	2.18	3.39	346.51	23.38	47.17	7.07	344.05	0.00	0.00	27.50	3.00	_105.04	15.31	0.00	4.12
12/23/99		4.04	5.38	4.53	4.84	149.63	26.01	47.04	7.35	387.50	0.00	0.00	23.50	0.00	109.85	12.64	0.00	7.58
12/29/99		0.00	0.00	0.00	0.00	0.00	52.75	93.91	13.67	697.09	0.00	0.00	51.60	0.00	212.55	29.50	0.00	0.00
1/3/00		6.10	22.20	4.70	8.21	14.39	42.61	78.24	10.36	495.96	0.00	0.00	217.77	3.50	166.21	27.34	0.00	11.28
1/4/00		0.00	0.00	0.00	0.00	33.87	4.31	6.71	0.82	47.40	0.00	0.00	0.00	0.00	15.62	0.00	0.00	0.00
1/7/00		3.59	4.22	3.40	4.54	26.27	77.68	133.74	0.25	798.55	0.00	0.00	5.73	0.00	284.81	45.61	0.00	9.07

⁽¹⁾

^{-- =} Not Monitored

This well was never pumped because it was a dry well after installation.

These wells were abandoned due to low production as part of TM No. 13 Addendum 1.

TABLE 8A GALLONS OF WATER EXTRACTED PER WELL WASTE DISPOSAL, INC. SUPERFUND SITE (Continued)

Page 3 of 3

	RW-1 ⁽¹⁾	RW-2	RW-3	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-10	TT-II-1	TT-II-2	PB-2	PB-4	PB-6	PB-8	EX-2	EX-4
Date of Reading	(Gallons)	1	(Gallons)	i		(Gallons)	(Gallons)	(Gallons)	(Gallons)	Ī	(Gallons)	(Gallons)	1	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Gallons)
1/18/00		6.51	43.87	7.01	6.84	46.57	19.25	29.46	14.25	70.96	(2)	(2)	6.61	(2)	18.55	11.78	(2)	5.91
1/21/00		3.99	4.44	3.99	2.59	256.95	43.29	92.83	10.23	349.05	'		41.61		148.94	39.36		6.92
1/24/00		2.50	3.58	2.73	1.82	193.98	34.07	60.59	8.35	246.91			27.83		133.39	23.17		5.34
1/26/00		0.00	0.00	0.00	0.00	113.21	19.72	34.87	4.86	137.40			18.22		78.17	14.58		0.00
1/28/00		4.11	5.28	3.52	2.88	116.49	20.26	34.60	4.74	141.44			17.49		78.32	12.37		5.38
1/31/00		0.00	0.00	0.00	0.00	171.33	28.45	49.02	7.04	205.99			21.41		112.97	15.82		0.00
2/2/00		3.36	4.23	3.20	2.71	107.37	18.07	30.55	4.67	113.45			11.18		70.64	8.73		5.21
2/4/00		1.58	3.55	2.03	1.29	132.46	22.12	39.46	5.69	138.93			17.96		85.29	14.24		5.12
2/8/00		2.37	3.97	2.81	2.15	216.73	36.36	64.28	8.66	229.09			24.00		138.66	20.53	••	4.19
2/11/00		1.78	3.02	2.21	1.67	165.11	28.32	51.30	6.74	185.93			22.60		101.14	18.12		4.53
2/14/00		1.73	2.67	1.88	9.64	139.15	23.19	42.97	5.44	168.42			18.84		82.92	14.64		3.21
2/18/00		2.70	3.79	3.12	3.12	217.91	34.62	63.73	8.27	254.09			28.33		125.64	22.14		4.57
2/21/00		2.09	3.67	2.78	1.83	154.75	24.40	46.40	5.97	180.20			24.40		83.37	19.06		3.88
2/24/00		2.58	8.89	2.58	2.17	167.01	26.19	50.88	6.30	195.58			25.83		91.90	19.17		3.41
2/28/00		2.52	3.37	3.63	2.37	199.17	31.61	59.54	7.63	192.44			24.46		115.50	19.78		4.79
3/3/00		3.79	3.91	3.79	3.02	229.86	41.34	70.66	9.00	225.72			30.56		142.20	27.84		6.93
3/7/00		3.60	3.76	3.49	2.63	212.99	38.53	68.74	8.96	211.48			36.38		136.41	34.72		6.22
3/10/00		2.33	3.43	2.76	1.78	161.96	27.99	47.47	6.31	165.03			17.64		121.53	15.13		7.84
3/13/00		2.54	9.12	2.32	1.67	143.83	23.69	45.66	5.94	145.51			25.58		107.35	16.73		6.64
3/17/00		3.87	3.47	3.27	2.77	198.23	30.77	61.79	8.65	142.02	<u></u> .		30.87		139.91	28.76		8.30
3/20/00		2.76	2.62	2.62	1.83	136.02	21.81	40.58	5.99	0.00			22.47		92.25	17.41	<u></u>	7.07
3/28/00	·	7.10	6.04	6.76	3.79	380.99	59.09	112.27	15.30	0.00			52.56		252.89	41.68		15.97
3/31/00		2.98	2.79	3.16	1.02	137.19	22.00	41.62	5.86	0.00			22.79	_ _	88.92	16.42		7.72
4/4/00		3.68	3.58	3.83	2.02	200.03	30.03	54.77	7.46	0.00			24.89		125.31	21.26		8.72
4/7/00		2.88	3.38	2.72	1.51	156.69	23.81	44.29	6.41	284.83			22.65		98.68	18.41		8.48
4/11/00		5.62	4.03	3.29	1.91	191.27	31.28	55.82	8.27	308.00			31.54		120.92	27.19		9.06
4/14/00		3.44	3.39	2.67	1.90	134.13	21.34	43.09	6.67	227.53			22.57		99.71	18.98		7.85
4/18/00		4.77	4.51	7.03	2.00	190.34	29.65	63.55	8.57	342.06			34.31		135.46	28.67		9.44
4/21/00		3.64	3.44	3.03	1.59	147.46	22.31	_43.96_	6.41	200.35			26.16		104.48	21.90		8.00
4/25/00		5.10	5.67	5.45	1.76	156.70	27.41	47.27	6.90	0.00			26.09		113.16	24.21		8.26
4/28/00		4.84	7.03	5.30	2.75	148.55	28.57	39.26	7.33	245.26			29.74		108.22	23.02		7.89
5/1/00		3.79	4.91	3.72	0.92	126.94	28.17	33.65	7.78	188.54			21.89		86.35	16.29		5.44
5/5/00		5.05	4.89	4.89	2.31	207.21	78.99	57.75	10.52	155.31			40.29		135.32	32.55		7.15
5/9/00		5.53	5.04	5.39	2.06	177.74	37.16	55.04	9.50	322.92			29.04		136.37	25.51		2.99
5/12/00		3.80	4.73	4.46	2.39	127.09	22.37	91.99	10.70	175.23			22.50		86.42	18.21		3.49
5/17/00		3.69	4.73	5.12	1.27	381.39	67.79	58.12	25.43	185.38			23.04		97.05	19.47		3.07
5/19/00		3.17	4.38	2.85	0.96	82.37	14.14	35.90	4.02	12.77			15.78		38.27	7.35		5.54
5/26/00		6.54	7.59	8.36	2.41	276.73	8.36	0.00	0.00	3.64			35.49		2.14	1.77		2.68
5/30/00		3.45	10.82	3.58	1.40	176.26	0.00	0.00	0.00	0.00			26.40		0.00	0.00		6.54
6/2/00		0.00	0.00	0.00	0.00	151.62	0.00	0.00	0.00	0.00			23.22		0.00	0.00		0.00
TOTAL GALLONS EXTRACTED		489.56	770.73	451.96	306.04	18,953.81	7,700.36	7,281.24	1,450.48	42,643.46	4,192.21	2,508.63	3,996.39	147.09	24,118.30	3,978.13	512.47	611.18

This well was never pumped because it was a dry well after installation.

-- = Not Monitored

94-256/RPTS/DrTMNo13ReLiRe(8/3/00/rm)



⁽²⁾ These wells were abandoned due to low production as part of TM No. 13 Addendum 1.

TABLE 8B
GALLONS OF WATER EXTRACTED PER WELL
WASTE DISPOSAL, INC. SUPERFUND SITE

Date of Reading	SDP-3 (Gallons)	P-4 (Gallons)	P-2 (Gallons)	VW-09 (Gallons)	EX-1 (Gallons)	P-1 (Gallons)	P-3 (Gallons)	SDP-1 (Gallons)	SDP-2 (Gallons)	EX-6 (Gallons
12/15/99	15.66	14.63	73.50	0.20	45.60	7.12				
12/16/99	14.08	23.20	167.20	0.04	0.57	1.71			-	
12/17/99	13.73	32.19	258.76	0.00	0.00	1.50				
12/20/99	32.35	72.74	169.38	1.45	6.34	3.88	-			
12/23/99	27.26	59.23	69.68	0.00	4.13	3.72				
12/29/99	48.47	98.43	110.85	0.00	9.77	7.51				
1/3/00	36.46	73.98	82.32	0.00	6.71	6.06	5.62			
1/4/00	3.16	6.54	6.26	20.95	0.14	0.56	10.35			
1/7/00	2.08	6.55	3.28	51.47	2.20	3.91	11.84	-		
1/18/00	10.88	17.52	34.80	27.79	6.57	5.30	60.09			
1/21/00	34,52	64.04	67.19	5.45	2.64	4.33	116.61		-	
1/24/00	24.08	53.27	40.09	4.83	2.67	3,98	59.34			
1/26/00	13.75	30.62	21.90	3.19	1.73	2.35	34.92			
1/28/00	13.06	31.51	21.11	2.77	1,49	2.35	35.29	18.29	14.61	25.16
1/31/00	0.00	44.22	29.68	4.25	0.00	0.00	37.34	26.38	18.17	21.02
2/2/00		28.27	17.58	2.93	0.00	0.00	25.66	10.96	9.98	7.16
	0.00						31.19		12.10	7.60
2/4/00	0.00	33.38	21.62	3.66	0.00	0.00		5.24	17.10	
2/8/00	0.00	55.67	35.20	6.68	0.00	0.00	49.60	22.51		10.92
2/11/00	0.00	42.18	29.45	5.88	0.00	0.00	36.73	14.02	12.14	6.63
2/14/00	0.00	36.25	23.49	4.65	0.00	0.00	30.06	10.73	10.09	5.54
2/18/00	0.00	61.70	36.13	7.75	0.00	0.00	45.69	16.48	0.00	7.69
	0.00	53.52	27.13	4.61	0.00	0.00	32.21	11.42	27.97	5.34
2/24/00	0.00	125.94	28.98	3.41	0.00	0.00	35.23	11.83	11.98	7.13
2/28/00	0.00	51.81	29.87	3.21	0.00	0.00	40.66	13.62	13.99	7.26
3/3/00	62.01	60.94	38.68	6.57	27.72	13.09	50.17	0.00	0.00	0.00
3/7/00	29.25	121.12	42.82	5.90	14.86	5.31	48.03	0.00	0.00	0.00
3/10/00	21.01	112.16	27.87	4.10	15.99	6.92	38.53	0.00	0.00	0.00
3/13/00	17.00	36.54	24.07	1.89	6.53	4.16	33.73	0.00	0.00	0.00
3/17/00	21.97	48.31	39.11	2.26	7.94	5.83	47.41	0.00	0.00	0.00
3/20/00	14.60	32.20	26.54	1.87	4.96	5.34	33.56	0.00	0.00	0.00
3/28/00	39.95	86.28	65.42	7.91	13.33	15.87	88.39	0.00	0.00	0.00
3/31/00	0.00	30.27	25.72	5.30	0.00	0.00	30.37	36.83	26.55	28.69
4/4/00	0.00	45.14	34.06	5.39	0.00	0.00	44.04	19.35	19.20	8.97
4/7/00	0.00	33.45	27.04	3.73	0.00	0.00	36.27	13.52	13.92	6.31
4/11/00	0.00	43.47	32.55	35.09	0.00	0.00	51.69	17.28	16.38	7.85
4/14/00	0.00	34.42	23.95	6.41	0.00	0.00	37.19	11.95	11.75	5.80
4/14/00	0.00	77.04	42.93	10.16	0.00	0.00	54.11	16.11	16.67	7.64
4/18/00	0.00	35.70	28.21	7.64	0.00	0.00	39.19	12.00	9.64	6.31
4/21/00	0.00	34.62	25.35	8.61	0.00	0.00	39.36	11.42	11.64	5.54
4/25/00	0.00	33.71	25.26	8.56	0.00	0.00	38.65	11.31	11.31	5.96
4/28/00	34.99	26.75	19.97	6.32	18.09	9.58	29,40	0.00	0.00	0.00
5/1/00	27.35	47.28	36.18	11.10	8.15	5.79	53.12	0.00	0.00	0.00
5/5/00	19.83	41.62	28.55	10.04	6.22	5.73	43,04	0.00	0.00	0.00
5/9/00	13.75	29.57	20.03	6.45	3.49	4.02	31.30	0.00	0.00	0.00
5/12/00	13,56	30.47	20.84	7.31	4.19	4.59	32.01	0.00	0.00	0.00
5/17/00	9.36	19.32	14.86	7.27	3,13	2.09	21.97	0.00	0.00	0.00
5/19/00	24.49	53.16	34.49	17.49	7.18	6.23	74.16	0.00	0.00	0.00
5:26:00								0.00		0.00
	14.27	37.38	25.87	12.50	3.66	3,37	40.59		0.00	
5/30/00	13.73	33.85	23.53	10.68	3.56	5,63	37.67	0.00	0.00	0.00
6/2/00	33.85	23,53	10.68	3.56	5.63	37.67	0.00	0.00	0.00	0.00
Total Gallons Extracted	666.65	2,302.18	2,159.35	375.74	239.59	157.79	1,772.38	311.25	285.19	194.52

-- = The well was not online.

TRC
Customer-Focused Solutions

TABLE 9 RESERVOIR LIQUID LEVEL MONITORING RESULTS WASTE DISPOSAL INC. SUPERFUND SITE

Page 1 of 4

Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well l.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)
WDI-RW-1	4/30/99	ND	NA	WDI-RW-2	3/23/00	17.31	0.17	WDI- RW-4	11/4/99	11.59	3.87	WDI- RW-6	4/29/99	5.05	NA
	6/9/99	21.51	1.99	(Cont'd)	4/7/00	16.88	0.43	(Cont'd)	11/19/99	14.38	2.79		6/9/99	21.45	16.4
	7/21/99	20.12	1.39		4/21/00	16.17	0.71		12/1/99	14.79	0.41		7/7/99	8.88	12.57
	9/10/99	19.56	0.56		5/5/00	15.18	1.01		12/23/99	16.02	1.23		7/21/99	8.62	0.26
	9/27/99	19.74	0.18		5/22/00	16.68	1.5		1/7/00	17.26	1.24		8/17/99	9.5	0.88
	10/25/99	19.8	0.06	WDI- RW-3	4/29/99	5.94	NA		1/17/00	13.75	3.51		8/31/99	8.28	1.22
	11/4/99	19.82	0.02		6/9/99	20.9	14.96]	1/28/00	17.92	4.17		9/27/99	8.12	0.16
	11/19/99	19.90	0.09		7/7/99	16.62	4.28		2/11/00	18.86	0.94		10/25/99	9.68	1.56
	12/1/99	19.80	0.1		7/21/99	11	5.62		3/10/00	18.68	0.18		11/4/99	9.03	0.65
	12/23/99	19.70	0.1		8/17/99	9.5	1.5		3/23/00	18	0.68		12/1/99	9.2	0.17
	1/7/00	19.65	0.05		8/31/99	8.55	0.95		4/7/00	17.74	0.26		1/17/00	9.79	0.59
	1/17/00	19.58	0.07		9/10/99	9.04	0.49		4/21/00	17.26	0.48	WDI- RW-7	4/2/99	5.2	NA
	1/28/00	19.71	0.13		9/27/99	10.57	1.53		5/5/00	15.99	1.27		6/9/99	22.02	16.82
	2/11/00	19.65	0.06		10/25/99	10.92	0.35		5/22/00	17.36	1.37		7/7/99	11.22	10.8
	3/10/00	19.38	0.27		11/4/99	8.96	1.96	WDI- RW-5	4/29/99	9.49	NA		7/21/99	11.11	0.11
	4/7/00	19.40	0.02		11/19/99	10.81	1.85		6/9/99	23.57	14.08		8/17/99	12.9	1.79
	4/21/00	19.17	0.23		12/1/99	11.19	0.38		7/7/99	21.49	2.08		8/31/99	11.5	1.4
	5/5/00	19.06	0.11		12/23/99	12.23	1.04		7/21/99	19.43	2.06		9/27/99	11.15	0.35
	5/22/00	19.04	0.02		1/7/00	12.33	0.1		8/19/99	16.2	3.23		10/25/99	11.52	0.37
WDI-RW-2	5/11/99	7.76	NA		1/17/00	11.62	0.71		8/31/99	15.96	0.24		11/4/99	11.14	0.38
	6/9/99	20.82	13.06		1/28/00	13.53	1.91		9/10/99	18.79	2.83		12/1/99	11.37	0.23
:	7/7/99	16.92	3.9		2/11/00	14.87	1.34		9/27/99	21.91	3.12		1/17/00	11.4	0.03
	7/21/99	15.41	1.51		3/10/00	14.53	0.34		10/25/99	19.54	2.37	WDI- RW-8	5/11/99	8.23	NA
	8/13/99	18.2	2.79]	3/23/00	17.12	2.59		11/4/99	19.50	0.04		6/9/99	24.98	16.75
	8/31/99	12.16	6.04		4/7/00	14.23	2.89		11/19/99	18.88	0.62		7/7/99	18.92	6.06
	9/10/99	11.1	1.05		4/21/00	14.16	0.07		12/1/99	17.95	0.93		7/21/99	18.62	0.3
	9/27/99	13.44	2.34		5/5/00	13.65	0.51		12/23/99	19.3	1.35		8/17/99	19.1	0.48
	10/25/99	12.81	0.63		5/22/00	13.75	0.10		1/7/00	18.5	1.2		8/31/99	18.52	0.58
	11/4/99	11.48	1.33	WDI- RW-4	4/29/99	6.4	NA		1/17/00	17.25	1.25		9/27/99	17.42	1.1
	11/19/99	14.01	2.53		6/9/99	23.42	17.02		1/28/00	21.24	3.99	1	10/25/99	19.3	1.88
	12/1/99	14.74	0.73]	7/7/99	12.89	10.53		2/11/00	22.21	0.97	1	11/4/99	18.11	1.19
	12/23/99	15.93	1.19]	7/21/99	14.68	1.79]	3/10/00	22.64	0.43		12/1/99	18.82	0.71
	1/7/00	16.93	1.00		8/17/99	12.3	2.38]	3/23/00	22.22	0.42		1/17/00	18.95	0.13
	1/17/00	14.24	2.69		8/31/99	14.57	2.27		4/7/00	22.51	0.29	WDI- RW-9	4/29/99	9.00	NA
	1/28/00	17.14	2.90		9/10/99	10.61	3.96		4/21/00	22.52	0.01		6/9/99	19.73	10.73
	2/11/00	17.87	0.73		9/27/99	11.69	1.08		5/5/00	21.73	0.79	:	7/7/99	16.37	3.36
	3/10/00	17.46	0.41		10/25/99	15.46	3.77	1	5/22/00	22.54	0.81		7/21/99	15.05	1.32

⁽¹⁾ Change in liquid level compared to previous monitoring result.
(2) Well was abandoned on January 20, 2000.
NA = Not applicable.

TABLE 9 RESERVOIR LIQUID LEVEL MONITORING RESULTS WASTE DISPOSAL INC. SUPERFUND SITE

(Continued)

	Date	Depth to Liquid	CI		Date	Depth to Liquid	(Conti		Date	Depth to Liquid	G		Date	Depth to Liquid	Page 2 c
Well I.D.	Monitored	(feet)	Change in Liquid Level (1) (feet)	Well I.D.	Monitored	(feet)	Change in Liquid Level (1) (feet)	Well I.D.	Monitored	(feet)	Change in Liquid Level (1) (feet)	Well I.D.	Monitored	(feet)	Change in Liquid Leve (feet)
WDI- RW-9	8/17/99	17.3	2.25	WDI-TT-II-2	6/9/99	10.20	3.96	WDI-PB-6	11/25/98	4.80	NA	WDI-EX-1	4/7/00	13.65	1.64
(Cont'd)	8/31/99	15.82	1.48	(Cont'd)	7/7/99	9.62	0.58		12/4/98	ND	ND	(Cont'd)	4/21/00	9.14	4.51
	9/27/99	10.46	5.36		7/21/99	9.73	0.11		2/4/99	ND	ND	WDI-EX-2	11/25/98	7.70	3.16
	10/25/99	17.2	6.74		8/17/99	9.8	0.07		6/9/99	7.42	7.42		12/4/98	7.62	0.08
	11/4/99	16.00	1.20		8/31/99	9.46	0.34	-	7/7/99	7.89	0.47		2/4/99	7.96	0.34
	12/1/99	15.4	0.6		9/10/99	9.04	0.42		7/21/99	8.1	0.21		4/29/99	7.92	0.04
	1/17/00	16.22	0.82		9/27/99	8.36	0.68		8/17/99	11.8	3.7		6/9/99	23.30	15.38
WDI-RW-10	4/29/99	8.49	NA		10/25/99	7.85	0.51		8/31/99	8.52	3.28		7/7/99	20.79	2.51
	6/9/99	18.92	10.43		11/4/99	7.72	0.13		9/27/99	8.49	0.03		7/21/99	19.88	0.91
	7/7/99	10.63	8.29		11/19/99	7.68	0.14		10/25/99	9.05	0.56		8/19/99	18.50	1.38
	7/21/99	10.65	0.02		12/1/99	7.66	0.02		11/4/99	8.84	0.21		8/31/99	14.65	3.85
	8/17/99	11.8	1.15]	12/23/99	7.73	0.07		12/1/99	9.18	0.34		9/10/99	19.80	5.15
	8/31/99	10.7	1.1		1/7/00(2)	7.78	0.05		1/17/00	9.68	0.5		9/27/99	21.48	1.68
	9/27/99	11.46	0.76	WDI-PB-2	5/11/99	6.73	NA	WDI-PB-8	5/7/99	7.58	NA		10/25/99	20.62	0.86
	10/25/99	12.7	1.24		6/9/99	ND	6.73		6/9/99	12.11	4.53		11/4/99	22.37	1.75
	11/4/99	12.31	0.39		7/7/99	8.14	8.14		7/7/99	12.01	0.1		11/19/99	20.16	2.21
	12/1/99	12.75	0.44		7/21/99	7.91	0.23		7/21/99	11.6	0.41		12/1/99	20.09	0.07
	1/17/00	13.72	0.97		8/19/99	9	1.09		8/17/99	12.2	0.6		12/23/99	19.54	0.55
WDI-TT-II-I	11/25/98	6.63	NA]	8/31/99	8.63	0.37		8/31/99	12.23	0.03		1/7/00(2)	16.25	3.29
	12/4/98	5.75	0.88		9/27/99	8.18	0.45		9/27/99	11.28	0.95	WDI-EX-3	11/30/98	5.73	NA
	2/4/99	6.83	1.08	_	10/25/99	9.18	1.00		10/25/99	11.21	0.07		12/4/98	5.70	0.03
	4/29/99	7.30	0.47]	11/4/99	8.49	0.69		11/4/99	11.25	0.04		2/4/99	5.87	0.17
	6/9/99	16.09	8.79		12/1/99	8.49	0.00		12/1/99	11.76	0.51		6/10/99	8.15	2.28
	7/7/99	14.72	1.37		1/17/00	9.2	0.71		1/17/00	11.95	0.19		9/27/99	8.25	0.10
	7/21/99	14.35	0.37	WDI-PB-4	5/7/99	7.21	NA	WDJ-EX-1	11/25/98	18.11	NA		10/14/99	8.21	0.04
	8/17/99	15.10	0.75		6/9/99	ND	7.21		12/4/98	18.57	0.46		11/4/99	8.39	0.18
	8/31/99	15.34	0.24]	7/7/99	10.99	10.99		2/4/99	17.21	1.36		11/19/99	8.41	0.02
	9/27/99	14.13	1.21]	7/21/99	10.2	0.79		6/10/99	15.90	1.31		12/23/99	8.59	0.18
	10/25/99	15.42	1.29		8/19/99	7.9	2.3		9/10/99	15.88	0.02		1/7/00 ⁽²⁾	8.70	0.11
	11/4/99	14.78	0.64]	8/31/99	8.06	0.16		9/27/99	15.71	0.17	WDI-EX-4	11/30/98	9.55	NA
	12/1/99	14.59	0.19		9/27/99	8.75	0.69		10/14/99	15.67	0.04		12/4/98	9.39	0.16
	12/23/99	14.75	0.16		10/25/99	10.58	1.83		11/4/99	15.64	0.03		2/4/99	8.41	0.98
	1/7/00(2)	13.64	1.11]	11/4/99	10.09	0.49		11/19/99	15.62	0.02		4/29/99	7.83	0.58
WDI-TT-II-2	11/30/98	6.12	NA]	11/19/99	9.82	0.27		12/15/99	15.59	0.03		6/9/99	18.72	10.89
	12/4/98	6.12	0.00]	12/1/99	10.14	0.32		1/17/00	16.5	0.91		7/7/99	16.76	1.96
	2/4/99	6.20	0.08	1	12/23/99	10.75	0.61		2/11/00	15.8	0.7		7/21/99	16.58	0.18
	4/29/99	6.24	0.04	1	1/7/00(2)	11.40	0.65		3/28/00	12.01	3.79		8/19/99	15.80	0.78

⁽¹⁾ Change in liquid level compared to previous monitoring result.
(2) Well was abandoned on January 20, 2000.
NA = Not applicable.



TABLE 9 RESERVOIR LIQUID LEVEL MONITORING RESULTS WASTE DISPOSAL INC. SUPERFUND SITE

(Continued)

							(Cont								Page 3
Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Leve (feet)
WDI-EX-4	8/31/99	16.09	0.29	WDI-EX-6	11/4/99	7.31	0.61	WDI-P-3	12/4/98	6.03	0.00	WDI-SSP-1	9/27/99	6.76	0.04
(Cont'd)	9/10/99	8.19	7.92	(Cont'd)	11/19/99	7.76	0.45	(Cont'd)	2/4/99	6.44	0.41	(Cont'd)	10/14/99	6.78	0.02
	9/27/99	16.86	8.67		12/23/99	8.40	0.64		6/10/99	8.32	1.88		11/4/99	7.09	0.31
	10/25/99	16.66	0.20	1	1/7/00	8.50	0.10		6/10/99	7.66	0.66		11/19/99	7.12	0.03
	i 1/4/99	16.35	0.31		1/17/00	8.31	0.19		9/27/99	7.62	0.04	1	12/23/99	7.45	0.33
	11/19/99	16.42	0.07		1/28/00	9.19	0.88		10/14/99	7.70	0.08		1/7/00(2)	7.59	0.14
	12/1/99	16.25	0.17		3/10/00	12.12	2.93		11/4/99	8.29	0.59	WDI-SSP-2	11/25/98	6.58	NA
	12/23/99	16.60	0.35	1	3/23/00	12.40	0.28		11/19/99	9.28	0.99		12/4/98	6.58	0.00
	1/7/00	16.60	0.00	1	5/5/00	14.46	2.06		12/23/99	9.72	0.44		2/4/99	6.91	0.33
	1/17/00	15.97	0.63]	5/22/00	10.48	3.98		1/17/00	9.02	0.70		6/10/99	6.88	0.03
	1/28/00	16.85	0.88	WDI-P-1	11/25/98	7.08	0.56	WDI-P-4	11/25/98	5.56	2.77		9/10/99	6.81	0.07
	2/11/00	16.95	0.10		12/4/98	7.02	0.06		12/4/98	4.53	1.03		9/27/99	6.82	0.01
	2/28/00	16.83	0.12	1	2/4/99	7.38	0.36		2/4/99	4.76	0.23		10/14/99	6.80	0.02
	3/10/00	16.59	0.24]	6/10/99	10.00	2.62		6/10/99	5.58	0.82		11/4/99	6.86	0.06
	4/7/00	16.50	0.09		9/10/99	10.58	0.58		9/10/99	5.90	0.32		11/19/99	7.65	0.79
	4/21/00	16.52	0.08	1	9/27/99	10.74	0.16		9/27/99	5.94	0.04		12/23/99	8.21	0.56
	5/5/00	16.25	0.27	1	10/14/99	10.70	0.04		10/14/99	6.10	0.16		1/7/00(2)	8.38	0.17
	5/22/00	16.42	0.17]	11/4/99	10.90	0.20		11/4/99	6.19	0.09	WDI-SSP-3	11/25/98	6.99	NA
	6/2/00	16.51	0.09		11/19/99	11.01	0.11		11/19/99	6.47	0.28		12/4/98	6.93	0.06
WDI-EX-5	11/25/98	8.51	NA		12/15/99	11.09	0.08		12/15/99	6.49	0.02		2/4/99	6.91	0.02
	12/4/98	8.44	0.07	1	1/17/00	11.55	0.46		1/17/00	8.25	1.76		6/10/99	ND	6.91
	2/4/99	8.12	0.32		2/11/00	11.52	0.03	WDI-VW-09	11/25/98	7.03	3.19		6/10/99	6.89	6.89
	6/10/99	7.75	0.37	1	2/28/00	10.05	1.47		12/4/98	6.92	0.11		9/27/99	6.98	0.09
	9/10/99	7.50	0.25		4/7/00	11.03	0.98		2/4/99	7.10	0.18		10/14/99	7.13	0.15
	9/27/99	7.56	0.06		4/21/00	9.18	1.85		6/10/99	11.40	4.30		11/4/99	7.29	0.16
	10/14/99	7.48	0.08	WDI-P-2	11/25/98	5.93	2.91		9/10/99	11.51	0.11		11/19/99	7.39	0.10
	11/4/99	7.69	0.21		12/4/98	5.90	0.03		9/27/99	11.79	0.28		12/23/99	7.85	0.46
	11/19/99	7.71	0.02		2/4/99	5.95	0.05		10/14/99	11.69	0.10		1/7/00(2)	8.22	0.37
	12/23/99	8.03	0.32	1	6/10/99	5.56	0.39		11/4/99	11.51	0.18	WDI-SDP-1	11/25/98	9.24	NA
	1/7/00(2)	8.16	0.13]	9/10/99	7.49	1.93		11/19/99	9.82	1.69		12/4/98	8.78	0.46
WDI-EX-6	11/25/98	5.82	NA]	9/27/99	7.62	0.13		12/15/99	9.74	0.08		2/4/99	7.61	1.17
	12/4/98	5.82	0.00]	10/14/99	7.78	0.16		1/17/00	11.6			6/10/99	8.28	0.67
	2/4/99	6.32	0.50	1	11/4/99	6.84	0.94	WDI-SSP-1	11/25/98	7.36	NA		9/10/99	7.55	0.73
	6/10/99	7.66	1.34	1	11/19/99	8.26	1.42		12/4/98	7.25	0.11		9/27/99	7.49	0.06
	9/10/99	6.67	0.99	[12/15/99	8.22	0.04		2/4/99	7.18	0.07		10/14/99	7.53	0.04
	9/27/99	6.62	0.05		1/17/00	10.40	2.18		6/10/99	7.03	0.15		11/4/99	7.51	0.02
	10/14/99	6.70	0.08	WDI-P-3	11/25/98	6.03	3.30		9/10/99	6.80	0.23		11/19/99	7.59	0.08

 ⁽¹⁾ Change in liquid level compared to previous monitoring result.
 (2) Well was abandoned on January 20, 2000.
 NA = Not applicable.



TABLE 9 RESERVOIR LIQUID LEVEL MONITORING RESULTS WASTE DISPOSAL INC. SUPERFUND SITE

(Continued)

		 		I	Γ		(0011	······································		T	<u>r</u>			[Page 4 of
Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (1) (feet)	Well I.D.	Date Monitored	Depth to Liquid (feet)	Change in Liquid Level (feet)
WDI-SDP-1	12/23/99	7.62	0.03	WDI-SDP-3	2/28/00	8.32	0.53	WDI-NDP-1	12/4/98	6.15	0.19	WDI-NDP-2	3/23/00	4.21	0.34
(Cont'd)	1/7/00	7.64	0.02	(Cont'd)	4/7/00	9.81	1.49	(Cont'd)	2/4/99	6.72	0.57	(Cont'd)	4/7/00	4.62	0.41
	1/17/00	7.52	0.12		4/21/00	9.10	0.71		6/9/99	9.42	2.70		4/21/00	4.42	0.20
	1/28/00	7.54	0.02	WDI-NSP-1	11/30/98	5.96	NA		9/10/99	9.12	0.30		5/5/00	4.45	0.03
	3/10/00	11.02	3.48		12/4/98	5.94	0.02		9/27/99	8.74	0.37		5/22/00	4.67	0.22
	3/23/00	10.90	0.22		2/4/99	6.22	0.28		10/14/99	9.00	0.26		6/2/00	4.78	0.11
	5/5/00	86.11	0.78	}	6/9/99	8.34	2.12		11/4/99	8.33	0.67	WDI-NDP-3	11/30/98	7.81	NA
	5/22/00	9.30	2.38		9/10/99	9.17	0.83		11/19/99	8.56	0.23		12/4/98	5.52	2.29
WDI-SDP-2	11/25/98	6.98	NA		9/27/99	9.03	0.14		12/23/99	8.46	0.10		2/4/99	5.81	0.29
	12/4/98	6.88	0.10		10/14/99	9.14	0.11		1/7/00	8.54	0.08		6/9/99	6.30	0.49
	2/4/99	6.96	0.08]	11/4/99	8.74	0.30]	1/17/00	8.60	0.06		9/10/99	5.34	0.96
	6/10/99	7.18	0.22		11/19/99	8.82	0.08		1/28/00	8.92	0.32	!	9/27/99	5.42	0.08
	9/10/99	6.75	0.43		12/23/99	8.89	0.07		2/11/00	9.17	0.25		10/14/99	5.38	0.04
	9/27/99	6.74	0.01		1/7/00(2)	8.85	0.04		2/28/00	7.29	1.92		11/4/99	5.66	0.28
	10/14/99	6.76	0.02	WDI-NSP-2	11/30/98	6.13	NA		3/10/00	6.14	1.15	-	11/19/99	5.92	0.26
	11/4/99	7.29	0.53		12/4/98	6.11	0.02		3/23/00	6.43	0.29		12/23/99	6.59	0.67
	11/19/99	7.74	0.45		2/4/99	6.23	0.12		4/7/00	5.97	1.54		1/7/00	6.74	0.15
	12/23/99	8.42	0.68		6/9/99	7.61	1.38		4/21/00	5.25	0.72		1/17/00	6.87	0.13
	1/7/00	8.36	0.06]	9/10/99	8.02	0.41		5/5/00	5.29	0.04		1/28/00	6.88	0.01
	1/17/00	8.35	0.01		9/27/99	7.91	0.11		5/22/00	5.34	0.05		2/11/00	7.02	0.14
	1/28/00	8.82	0.47		10/14/99	7.98	0.07		6/2/00	5.55	0.21		2/28/00	6.94	0.08
	3/10/00	10.48	1.66		11/4/99	7.67	0.31	WDJ-NDP-2	11/30/98	6.27	NA		3/10/00	7.02	0.08
	3/23/00	11.03	0.55		11/19/99	. 7.80	0.13		12/4/98	6.28	0.01		3/23/00	12.35	5.33
	5/5/00	10.12	0.91		12/23/99	7.90	0.10		2/4/99	6.40	0.12		4/7/00	7.12	5.23
	5/22/00	10.13	0.01		1/7/00(2)	7.89	0.01		6/9/99	7.27	0.87		4/21/00	6.79	0.33
WDI-SDP-3	11/25/98	4.15	NA	WDI-NSP-3	11/30/98	5.53	NA		9/10/99	8.11	0.84		5/5/00	6.79	0
	12/4/98	4.10	0.05		12/4/98	5.71	0.18		9/27/99	8.02	0.09		5/22/00	6.44	0.35
	2/4/99	4.36	0.26]	2/4/99	6.18	0.47		10/14/99	8.07	0.05		6/2/00	6.41	0.03
	6/9/99	4.69	0.33		6/9/99	6.50	0.32		11/4/99	7.83	0.24				94-256 RPTS DrTMNo13RcLiRetX-3 0
	9/10/99	4.73	0.04]	9/10/99	5.78	0.72		11/19/99	7.88	0.05				
	9/27/99	4.80	0.07]	9/27/99	5.70	0.08		12/23/99	7.93	0.05				
	10/14/99	9.80	5.00		10/14/99	5.80	0.10		1/7/00	7.97	0.04				
	11/4/99	5.08	4.72]	11/4/99	6.00	0.20		1/17/00	8.04	0.03				
				•		T				T		l			

8.21

8.23

5.39

4.55

0.17

0.02

2.84

0.84

1/28/00

2/11/00

2/28/00

3/10/00

11/19/99

12/15/99

1/17/00

2/11/00

5.25

5.14

7.65

8.85

0.17

0.11

2.51

1.20

11/19/99

12/23/99

1/7/00(2)

11/30/98

WDI-NDP-1

6.39

6.57

6.98

5.96

0.39

0.18

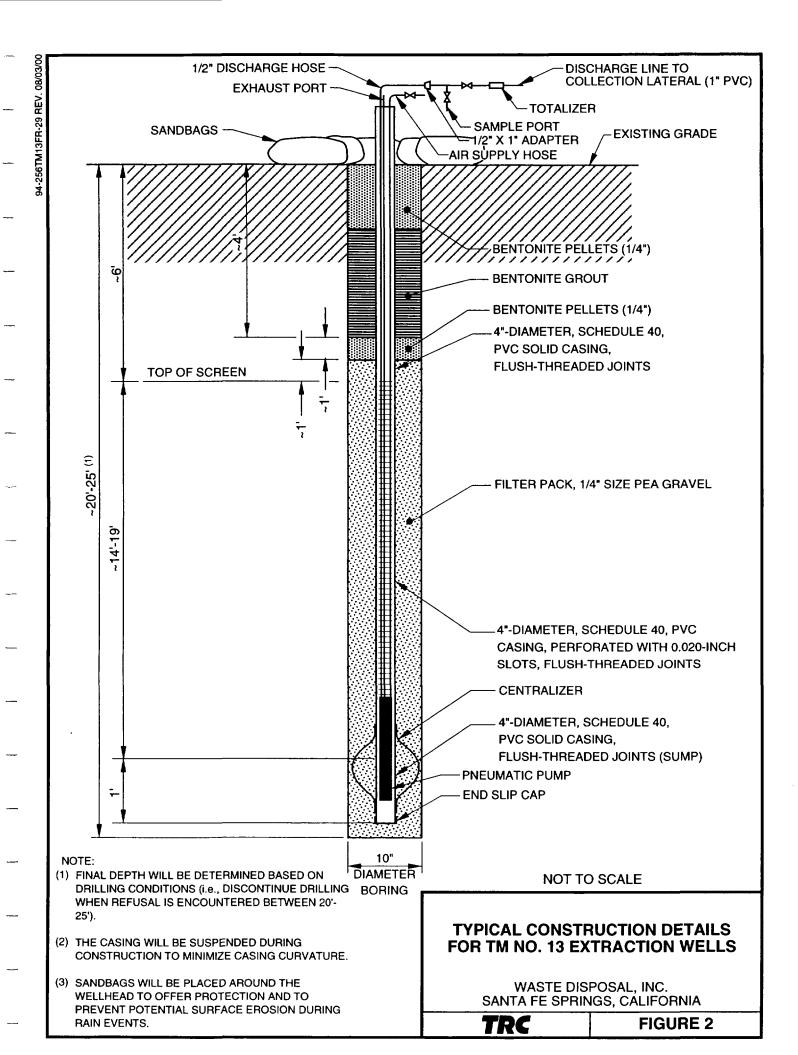
0.41

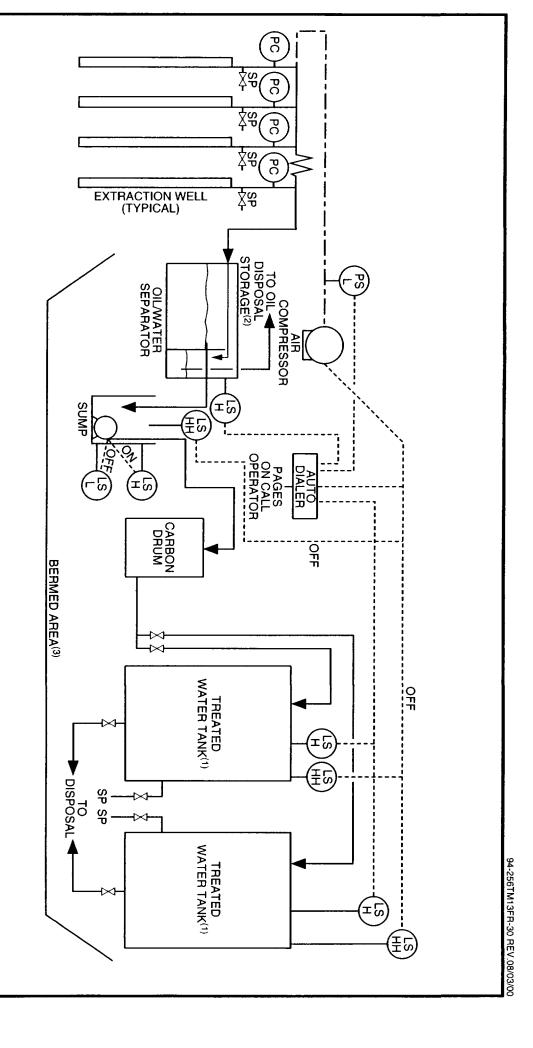
NA

⁽¹⁾ Change in liquid level compared to previous monitoring result. (2) Well was abandoned on January 20, 2000.

NA = Not applicable.







LEGEND

PC - PULSE COUNTER, OR TOTALIZER PSL - PRESSURE SWITCH LOW

LSH - LEVEL SWITCH HIGH

LSHH - LEVEL SWITCH HIGH HIGH

SP - SAMPLE PORT LSL - LEVEL SWITCH LOW

(1) TANK CAPACITY WILL DEPEND ON THE RECOVERY RATES OF THE EXTRACTION WELLS.
INITIALLY, A 20,000 GALLON BAKER TANK AND 6,000 GALLON BAKER TANK WILL BE USED
AT THE START-UP OF THE STUDY.
(2) RECOVERED OIL WILL EITHER BE STORED IN 55-GALLON DRUMS OR A 3,000-GALLON
BAKER TANK.

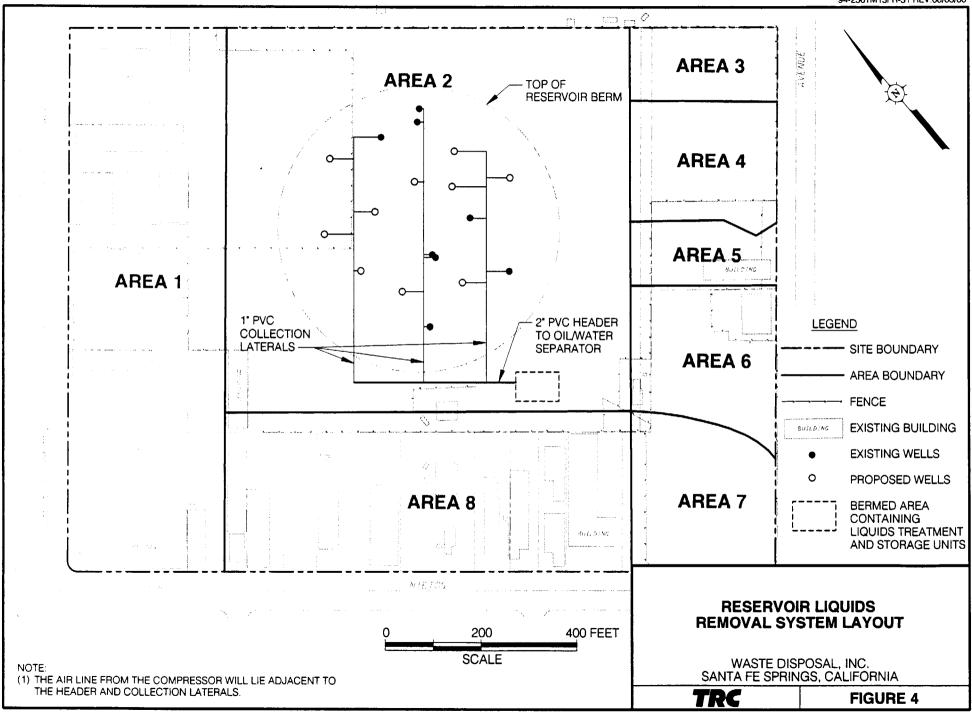
ω

CONSTRUCTED WITH A HAYBAIL BERM (50' x 40' x 2') COVERED BY VISQUEEN

FIGURE

WASTE DISPOSAL, INC. SANTA FE SPRINGS, CALIFORNIA

SCHEMATIC OF RESERVOIR LIQUIDS REMOVAL SYSTEM



TASK	j	JA! '99	V		FE '9	B 9		MA '9'			AP	R 9	I	MA '99	Y		JU '99	N 9		JU! '99	L)		U('99			SE '99	P)	()C'l	Γ :	N	OV 99		D	EC		JA '0			FE '0	B 0]	MA '00'			A PF '00			AY 00	Τ	JU '0			JU '0	
IASK	1	2	3 4	1	2	3 4	1	2	3 4	1 1	2	3 4	1	2	3 4	1	2	3 4	1	2	3 4	1	2 3	3 4	1	2	3 4	1	2 3	3 4	1	2 3	4	1 2	3	4	1 2	3 4	1 1	2	3 4	1	2	3 4	1	2 3	4	1 2	3	4 1	1 2	3 4	1	2	3 4
Prepare Technical Memorandum (TM) No. 13 - Pilot-Scale Treatibility Study for Reservoir Liquids Removal																																																							
EPA Review and Comment TM No. 13																																																							
Response to EPA Comments/Approval																																																							
Schedule Field Activities and Order Materials/Equipment																																																							
Install Wells and Infrastructure																																																		T					
Startup of System	П	1	Ī	Ī		Ť	T	Γ		T	П		T		T	Γ	П		Ī						T					T	П	1		T					T			T			П		П			T			T		
Evaluate System	П		-				T			Ī			1								Ī			T	T			Γ			П								T						П		П								
Operate System		1	T	Γ		T	T			1			T					7	7	Z	7	Z	7	Ż	7	7	Ż	7	Z	7	Z	7	Z	7		7	Ż	7	7	Z	4	7	Z	Ż	7	Ż	艺	Ż	7	Z	\prod				
Shutoff System ⁽¹⁾	П									1							П					П	П													1									П		П			Ī	\prod		1		
Dismantle System(1)		1		T			T			T			T		\dagger	T			T	П			П	T	T	П	1	T		T		1	П	1			T		T			T		T	П		П						T		
Submit As-Built Report(1)																																																							

To Be Determined

(1) Schedule will be determined by length of system operation. The length of operating the system will be based on the sustainability of pumping and the chemical composition of the liquids being extracted from the reservoir.

TM NO. 13 PROPOSED SCHEDULE

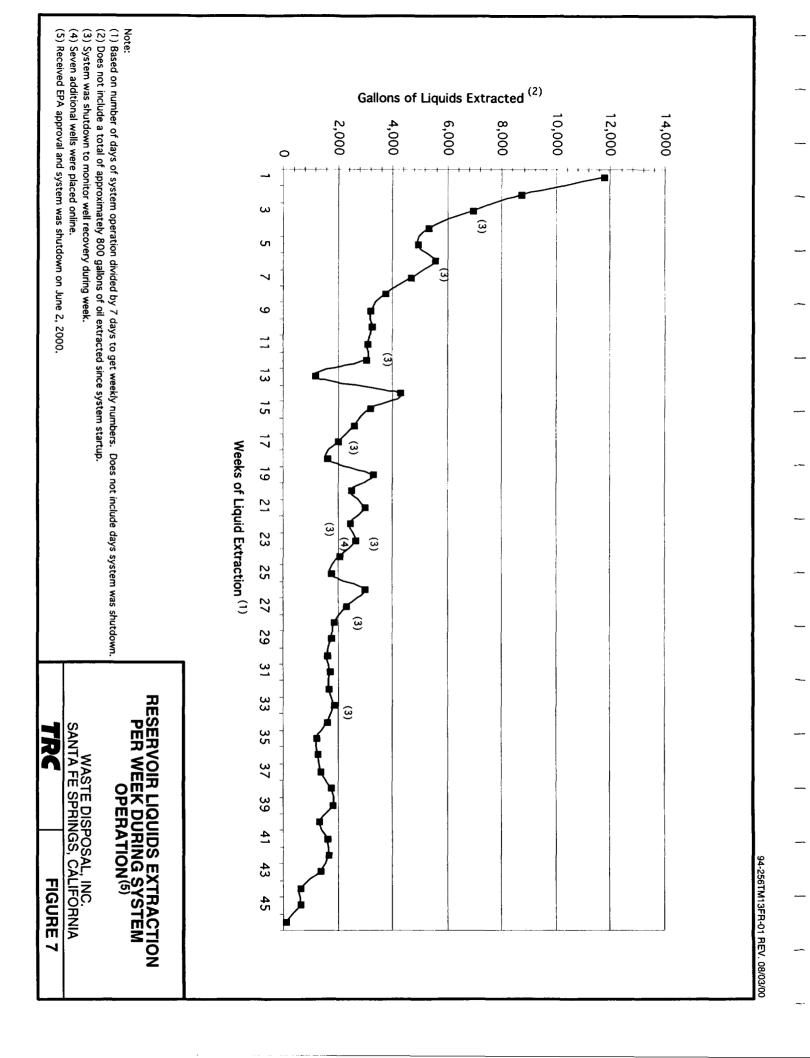
WASTE DISPOSAL, INC. SANTA FE SPRINGS, CALIFORNIA

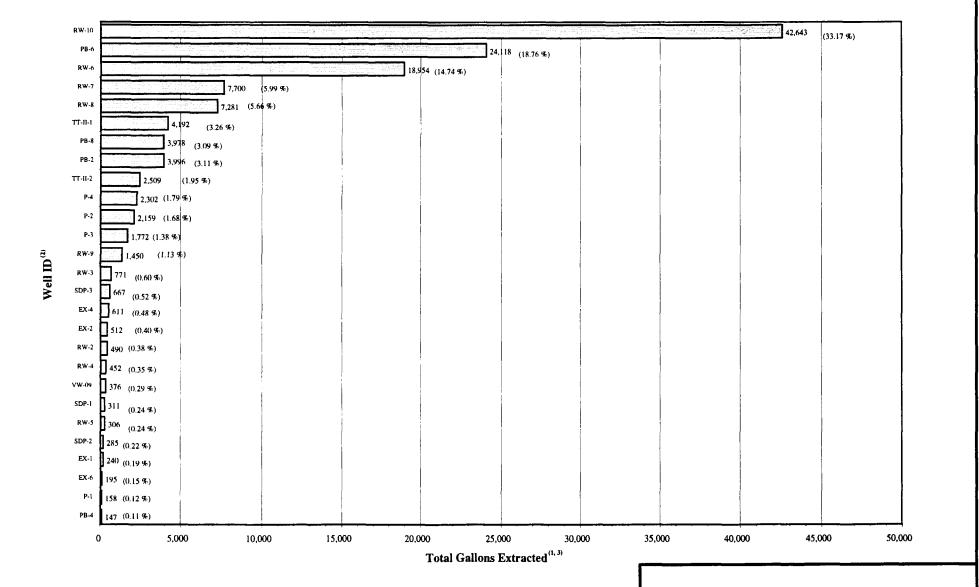
TRC

FIGURE 5

FIGURE 6

ABOVE STATE AND FEDERAL REQUIREMENTS





Note:

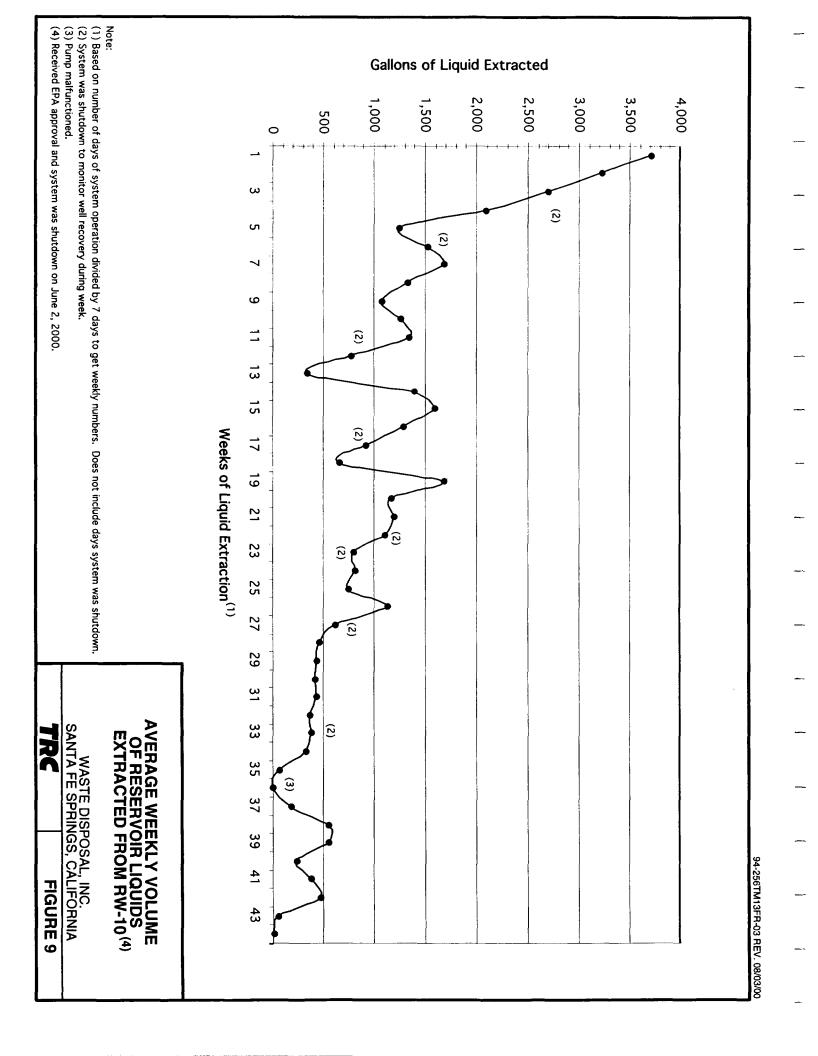
- (1) A total of approximately 800 gallons of oil have been extracted since system startup.
- (2) Reservoir wells TT-II-1, TT-II-2, EX-2, and PB-4 were abandoned on January 10, 2000 as part of EPA approved Addendum No. 2 to TM 13 activities.
- (3) Number in parenthesis is percent of total volume of liquids.
- (4) Received EPA approval and system was shutdown on June 2, 2000.

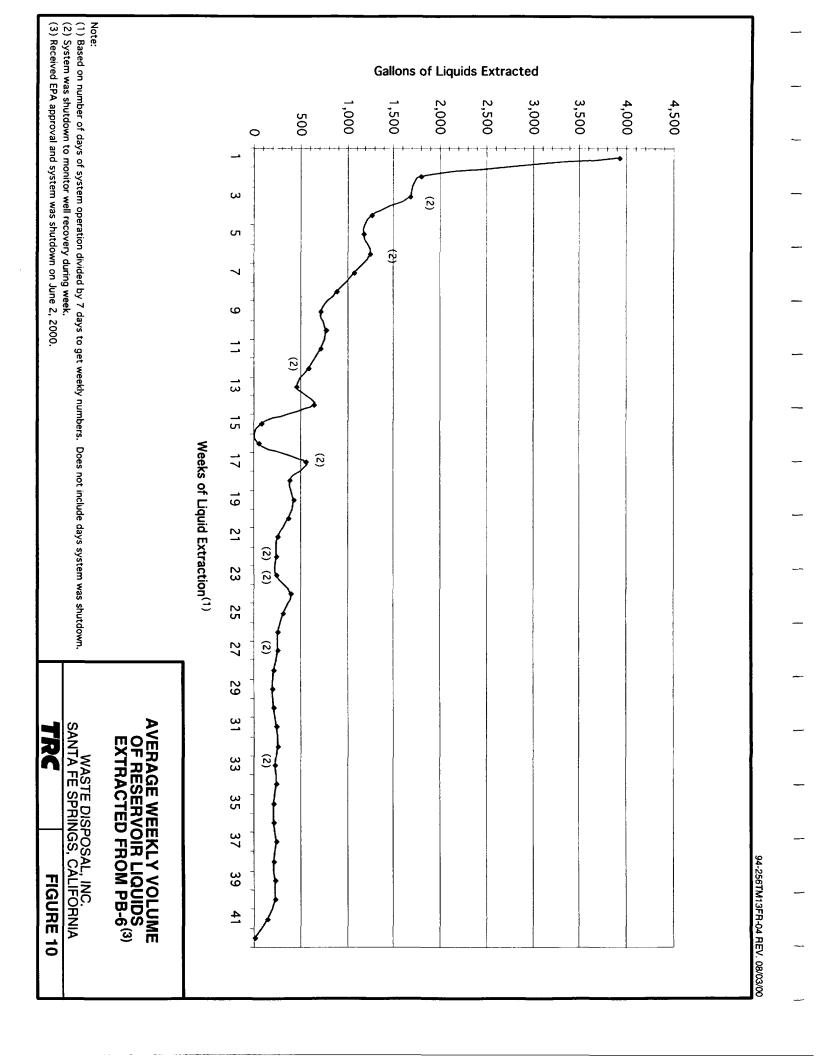
TOTAL VOLUME OF LIQUIDS EXTRACTED PER WELL AS OF JUNE 2, 2000⁽⁴⁾

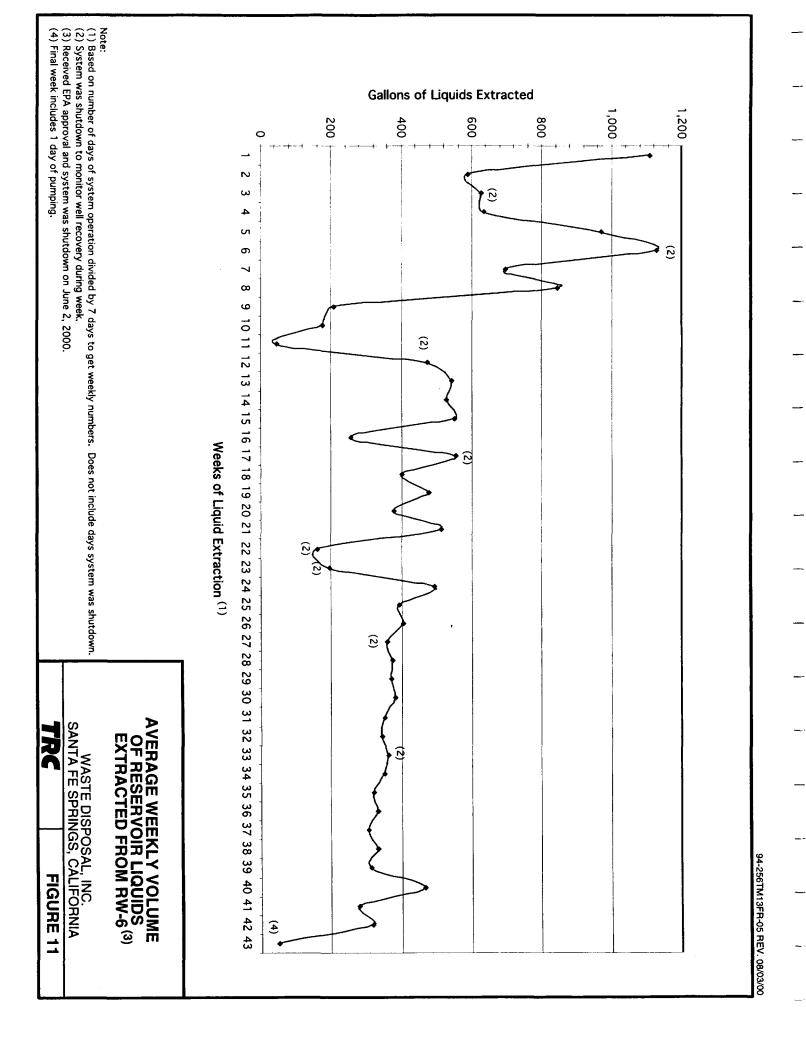
WASTE DISPOSAL, INC. SANTA FE SPRINGS, CALIFORNIA

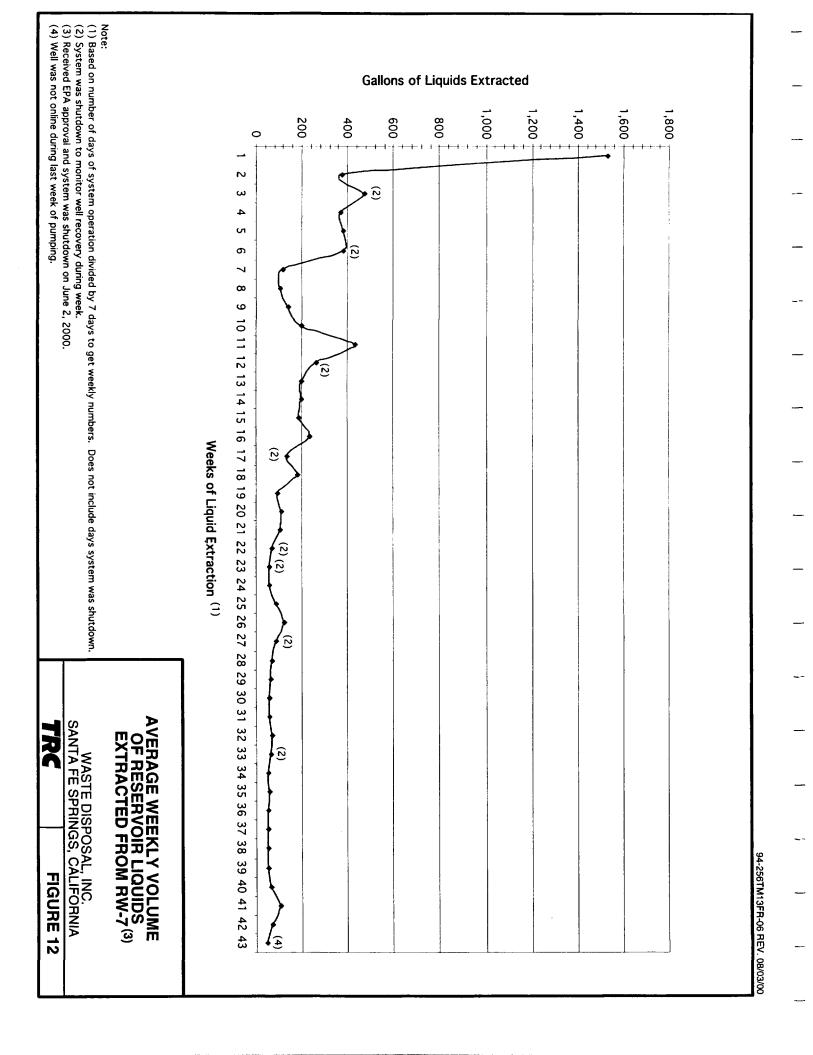
TRC

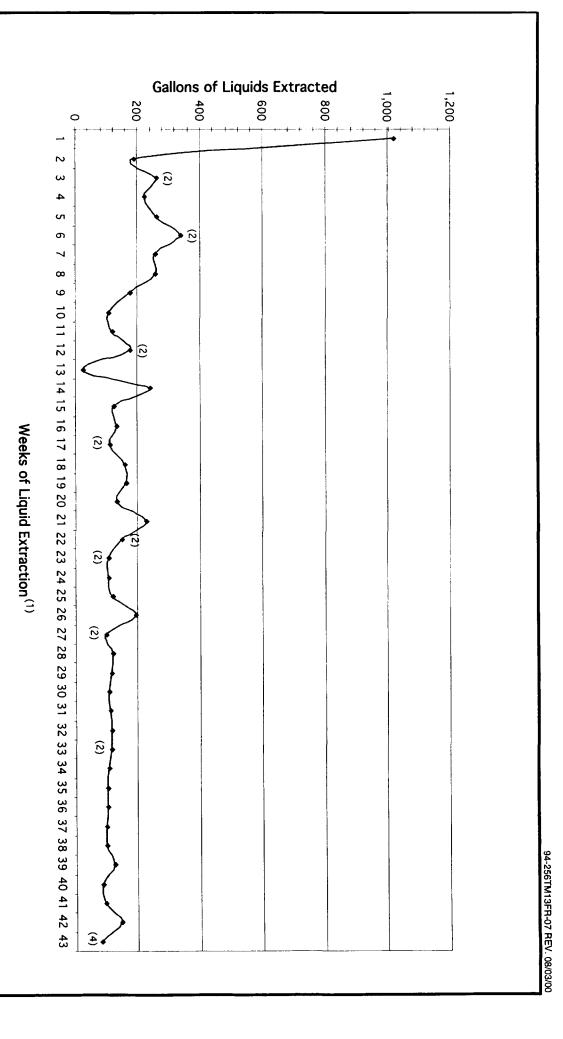
FIGURE 8











AVERAGE WEEKLY VOLUME OF RESERVOIR LIQUIDS EXTRACTED FROM RW-8 (3)

WASTE DISPOSAL, INC. SANTA FE SPRINGS, CALIFORNIA

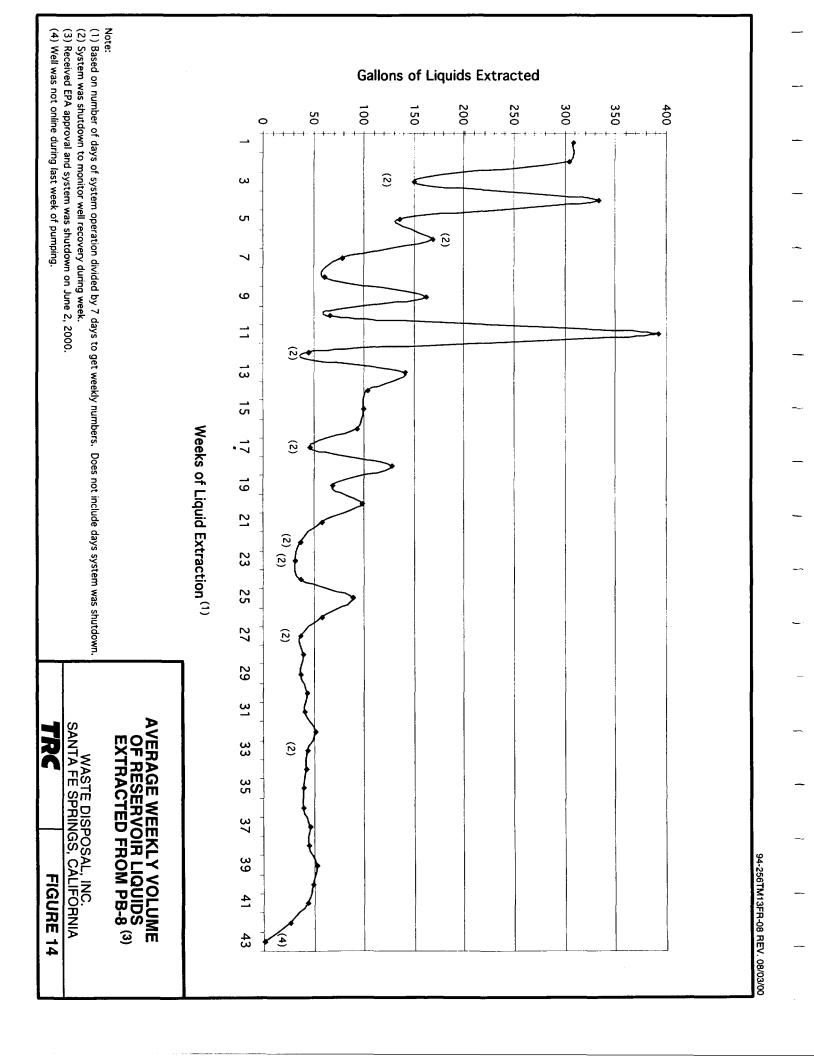
FIGURE 13

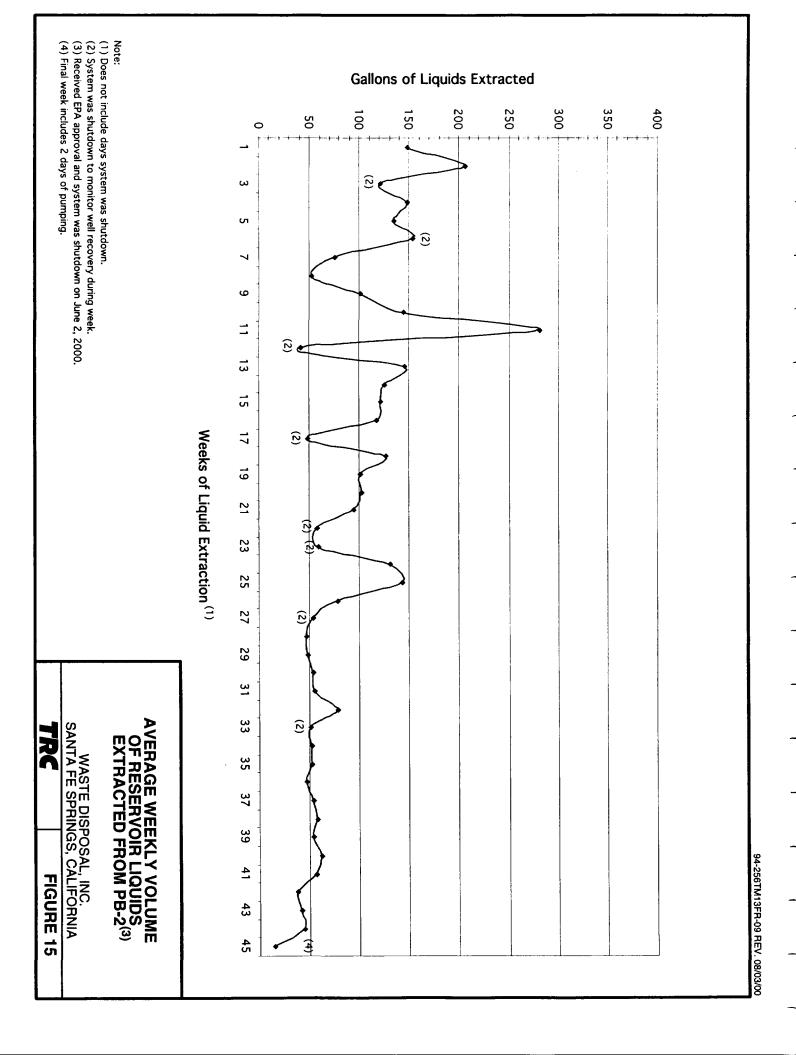
(2) System was shutdown to monitor well recovery during week.

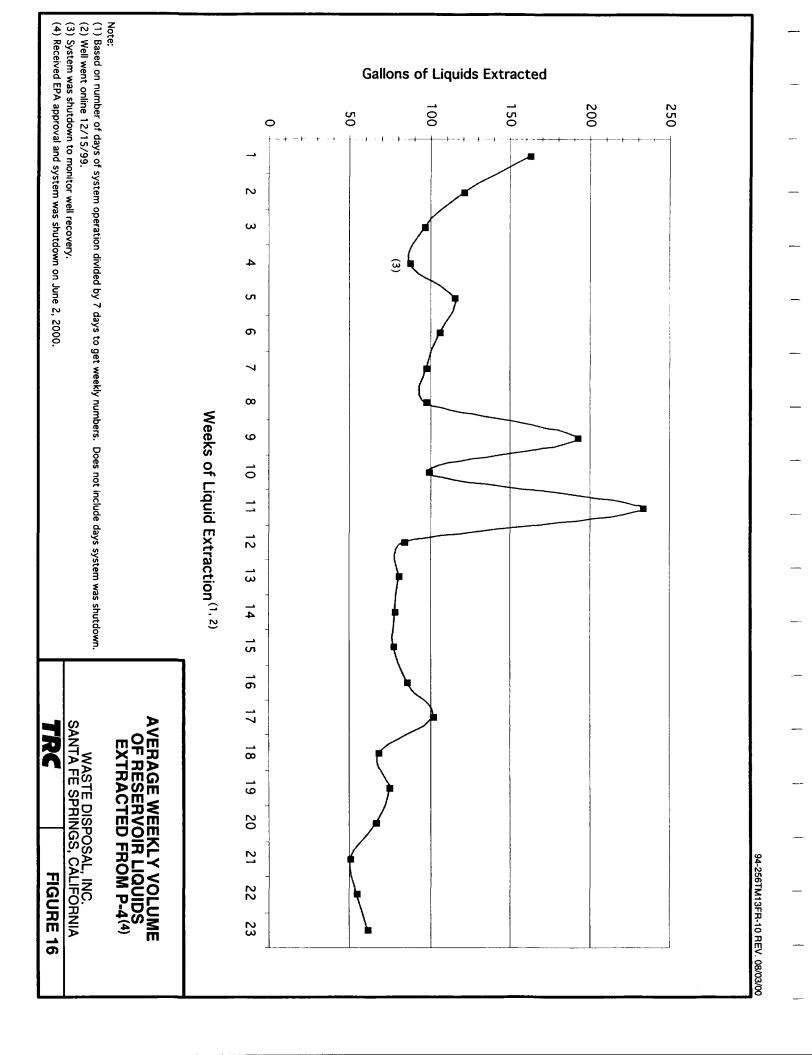
(3) Received EPA approval and system was shutdown on June 2, 2000.

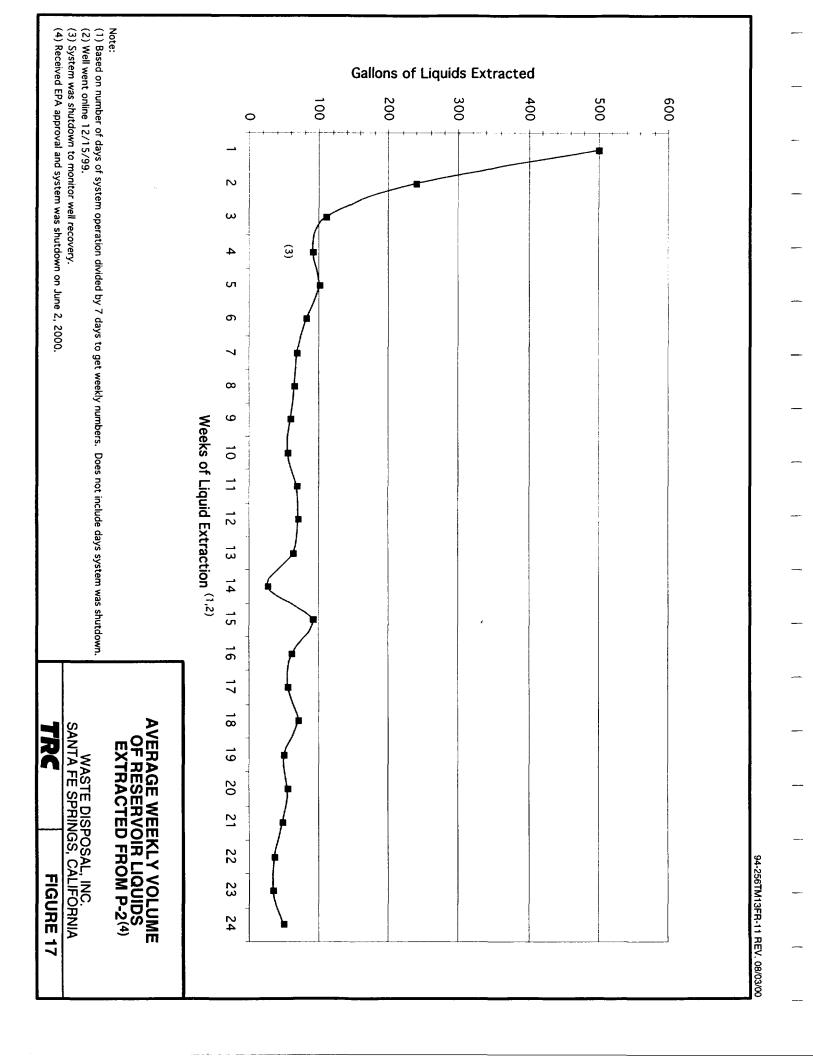
(1) Based on number of days of system operation divided by 7 days to get weekly numbers. Does not include days system was shutdown.

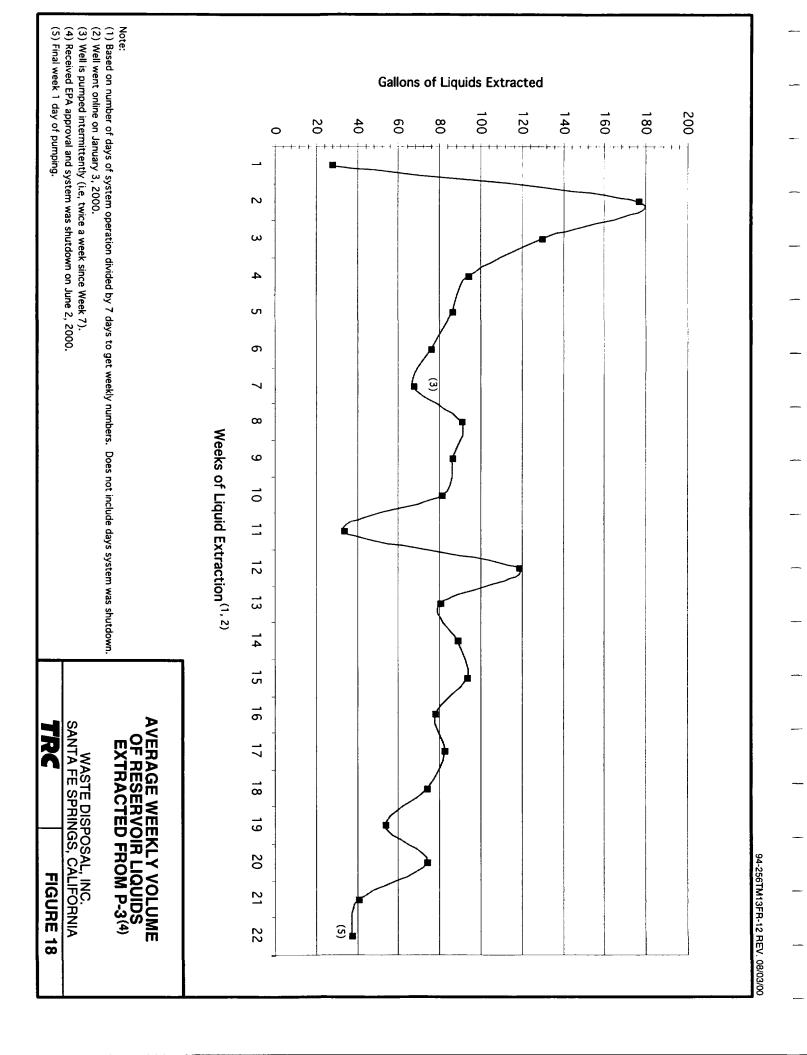
(4) Well was not online during last week of pumping.

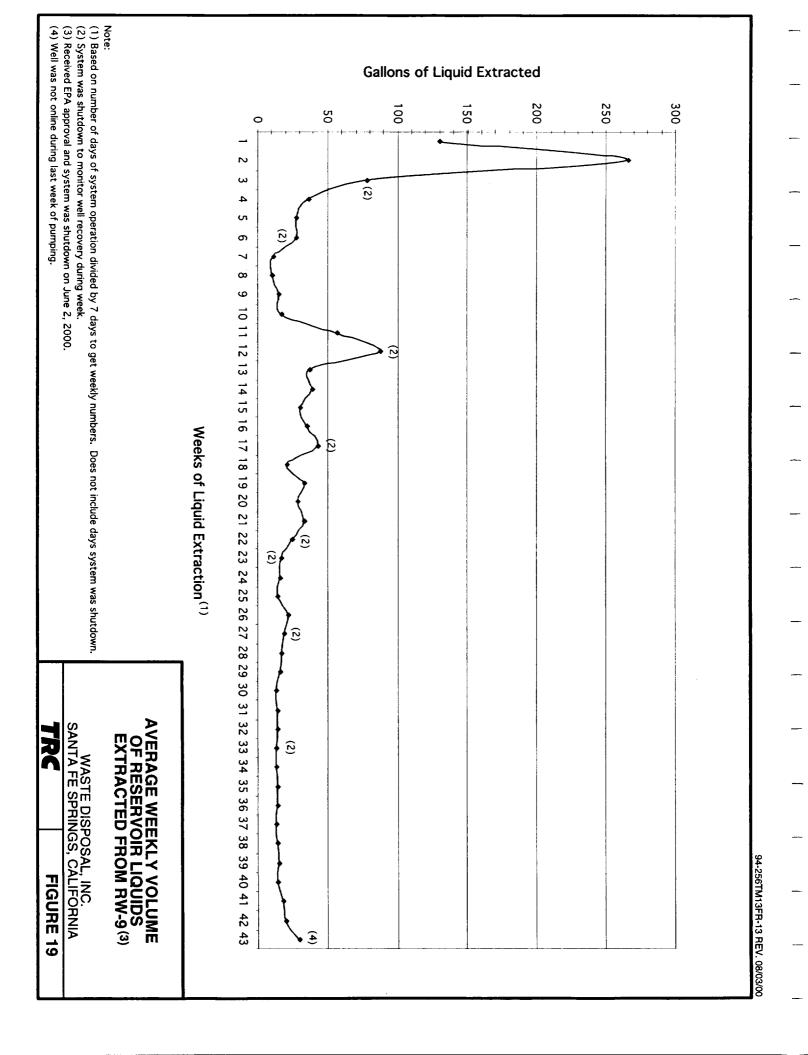


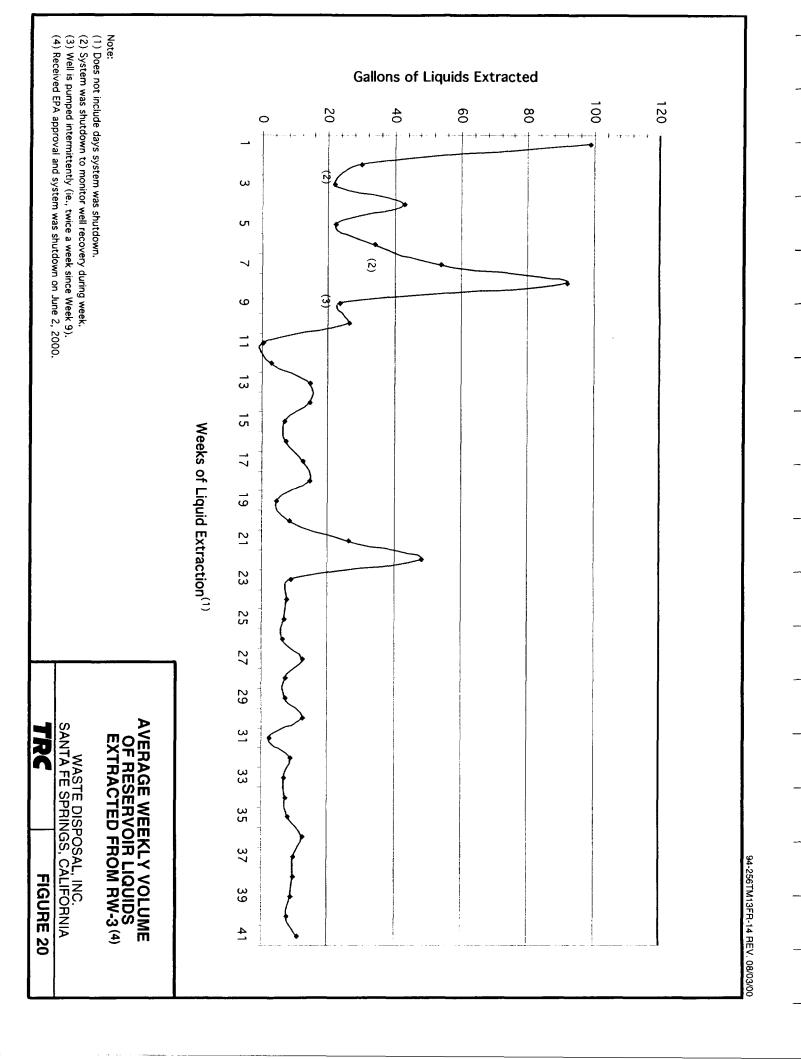


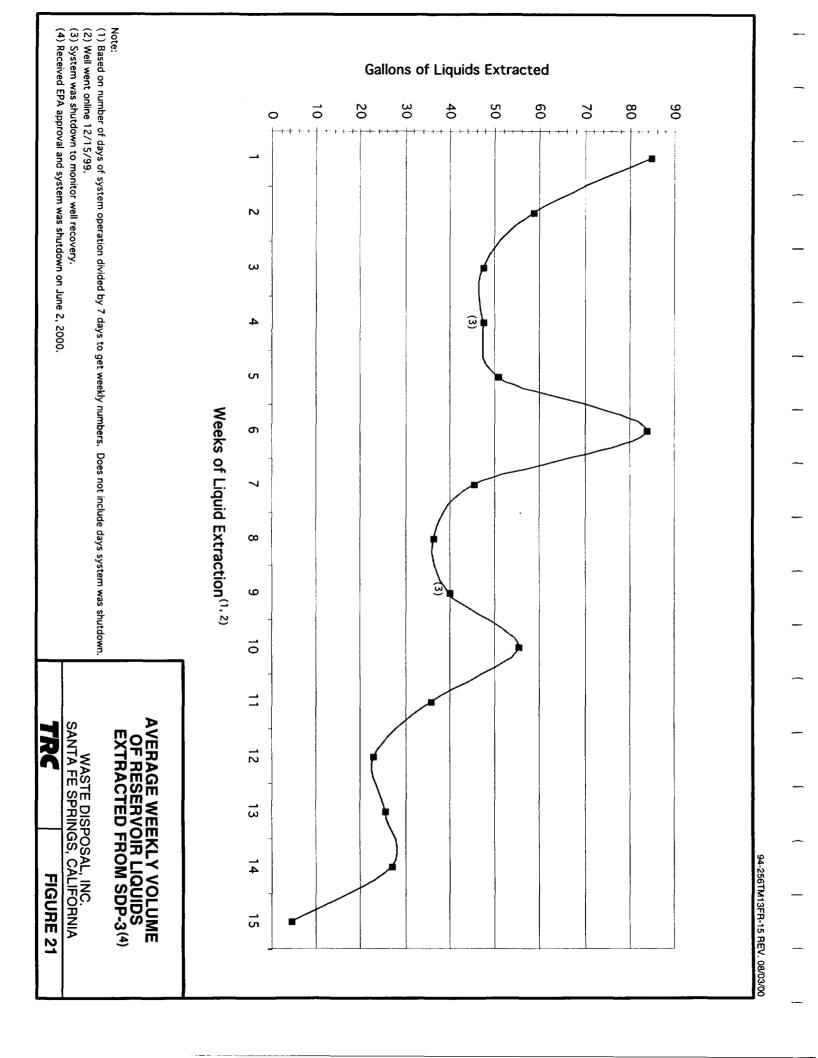


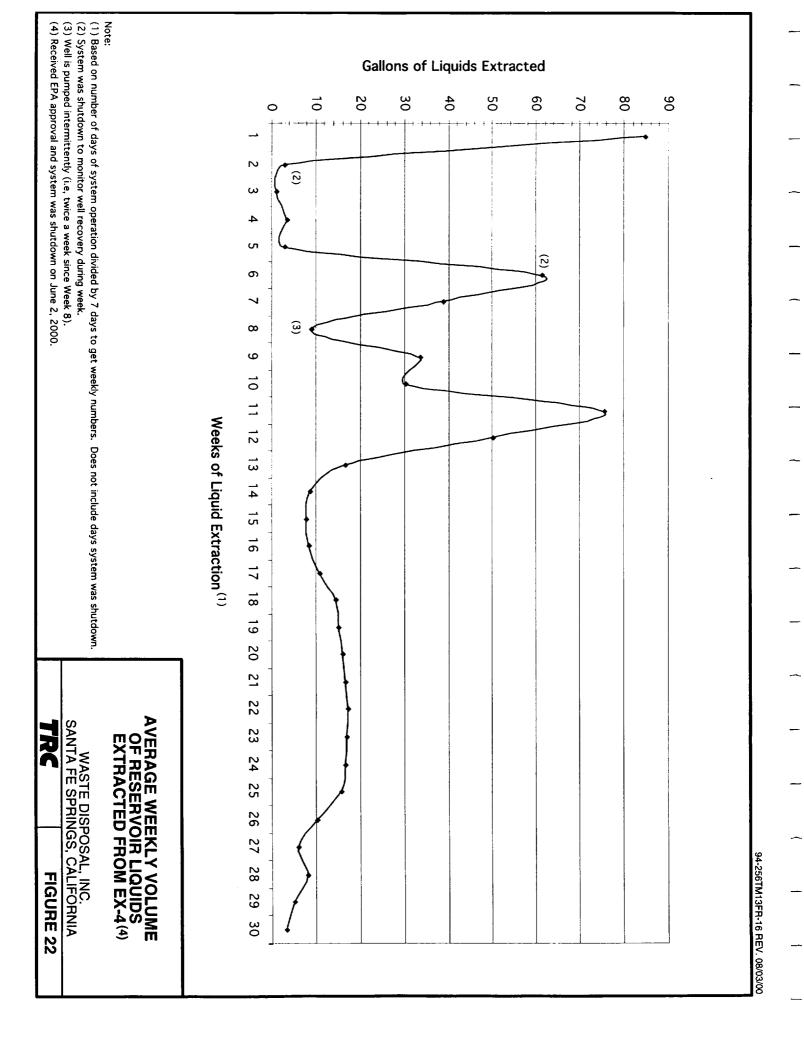


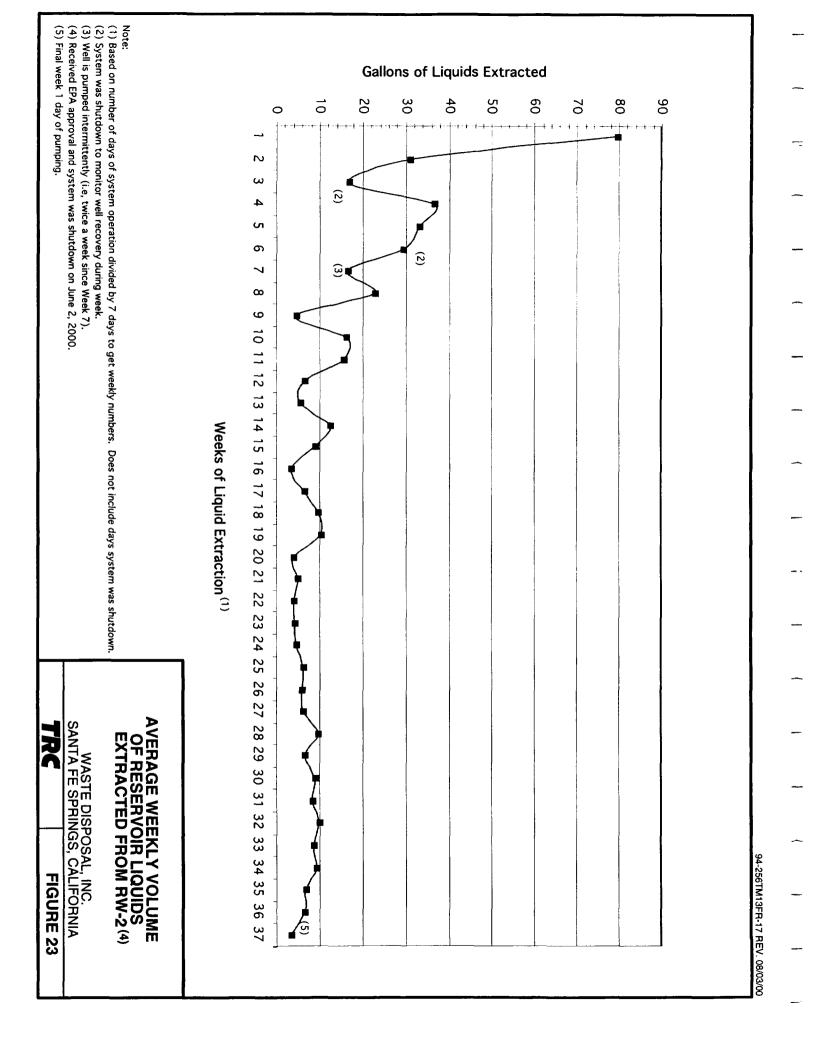


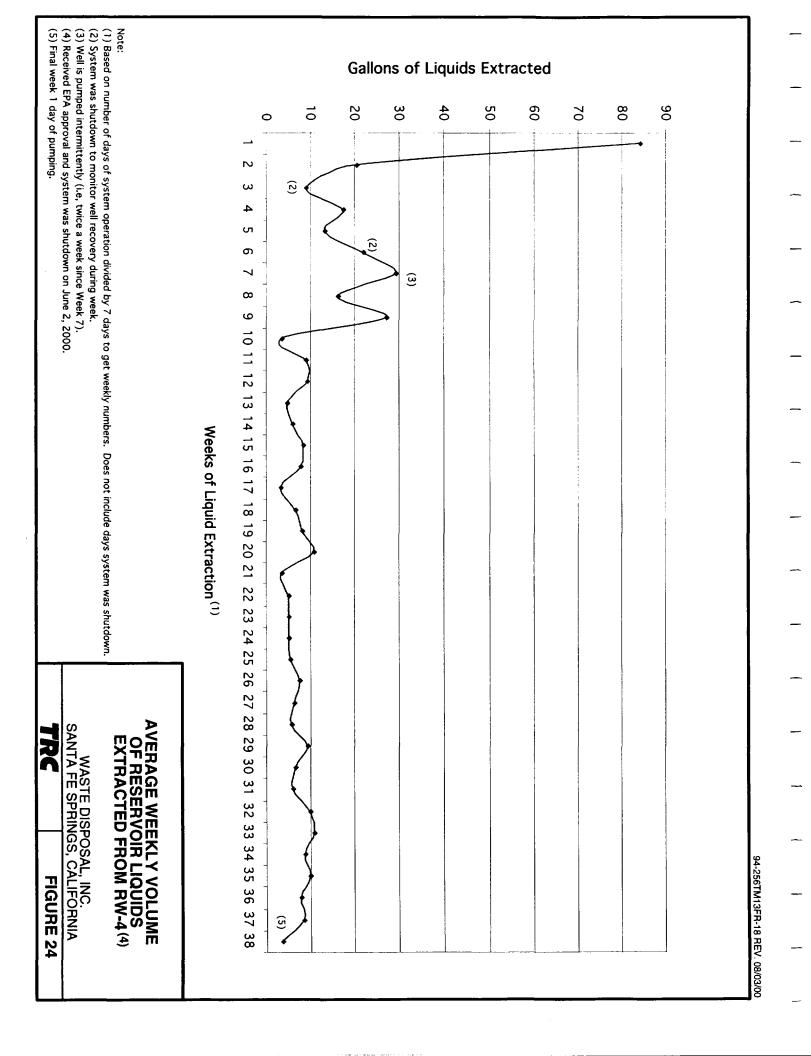


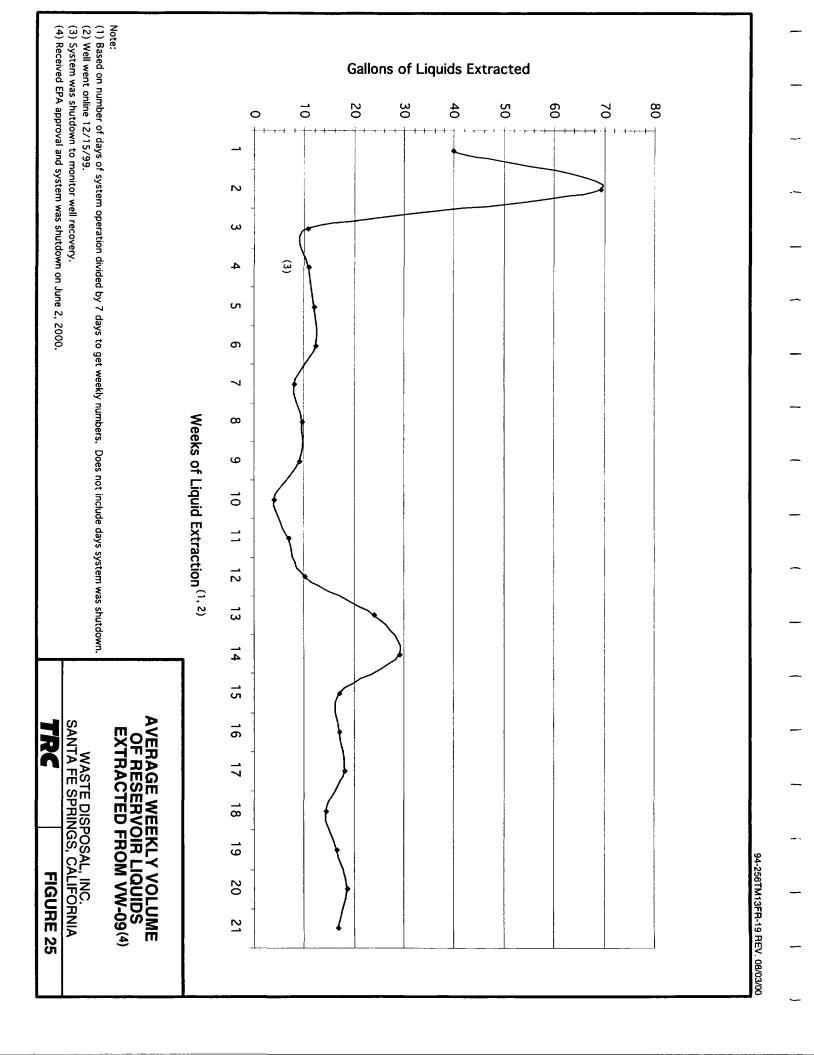


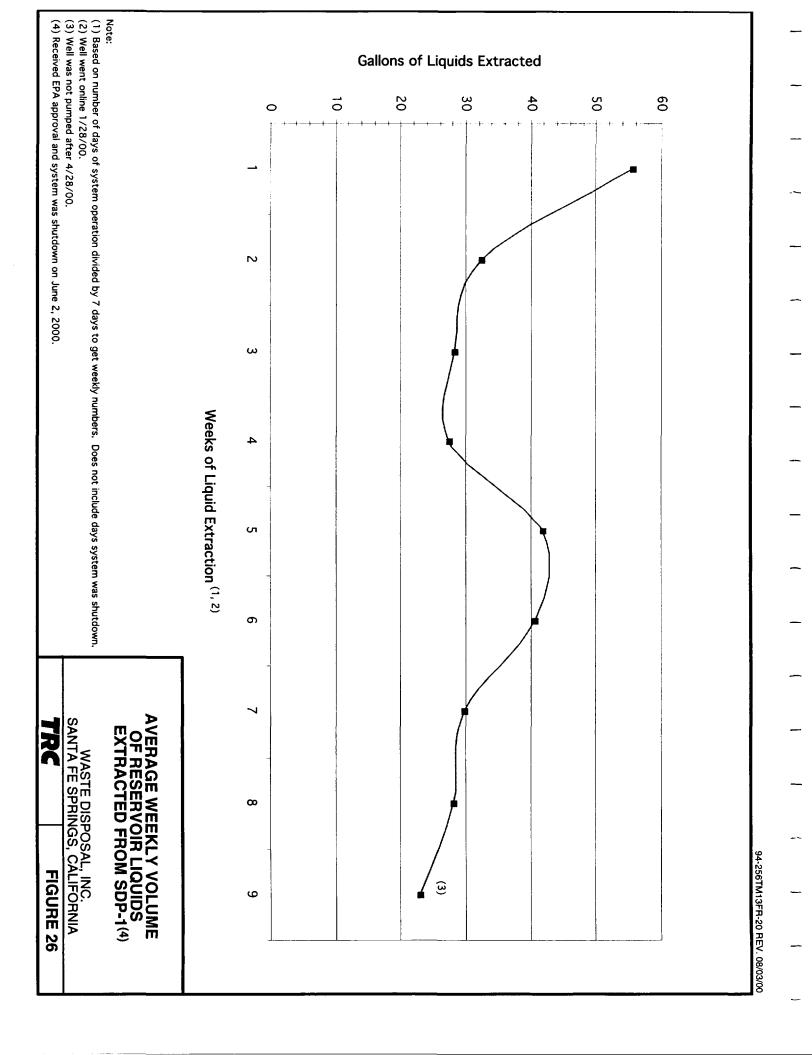


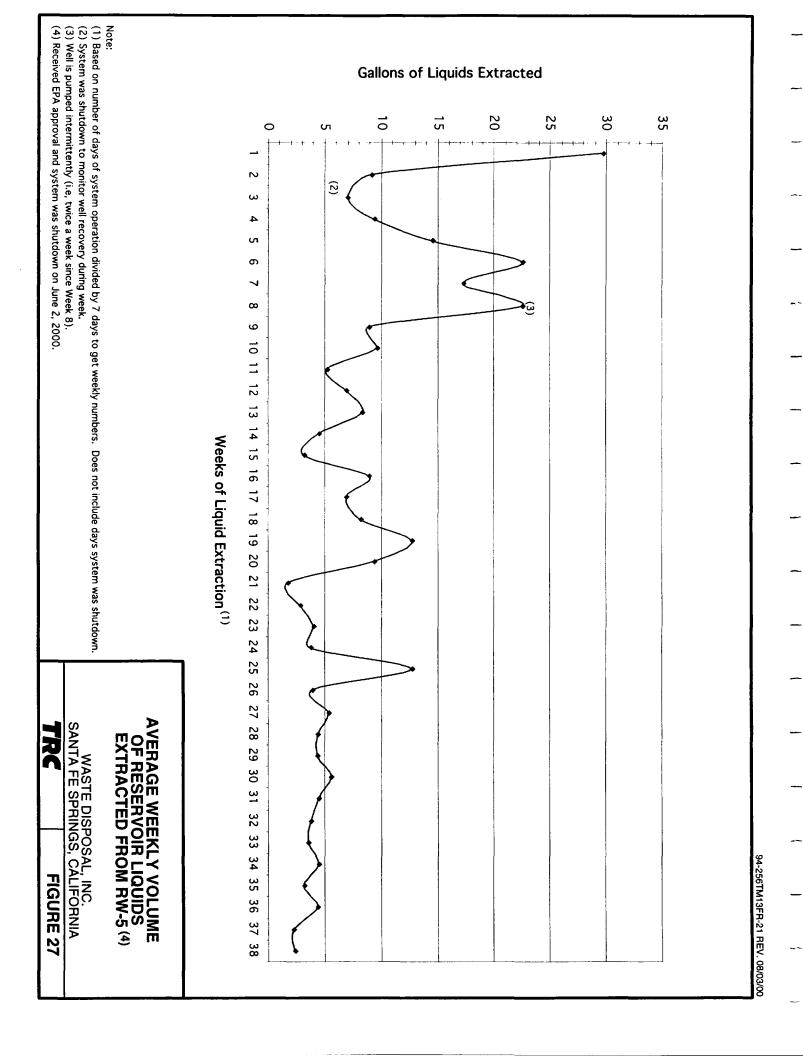


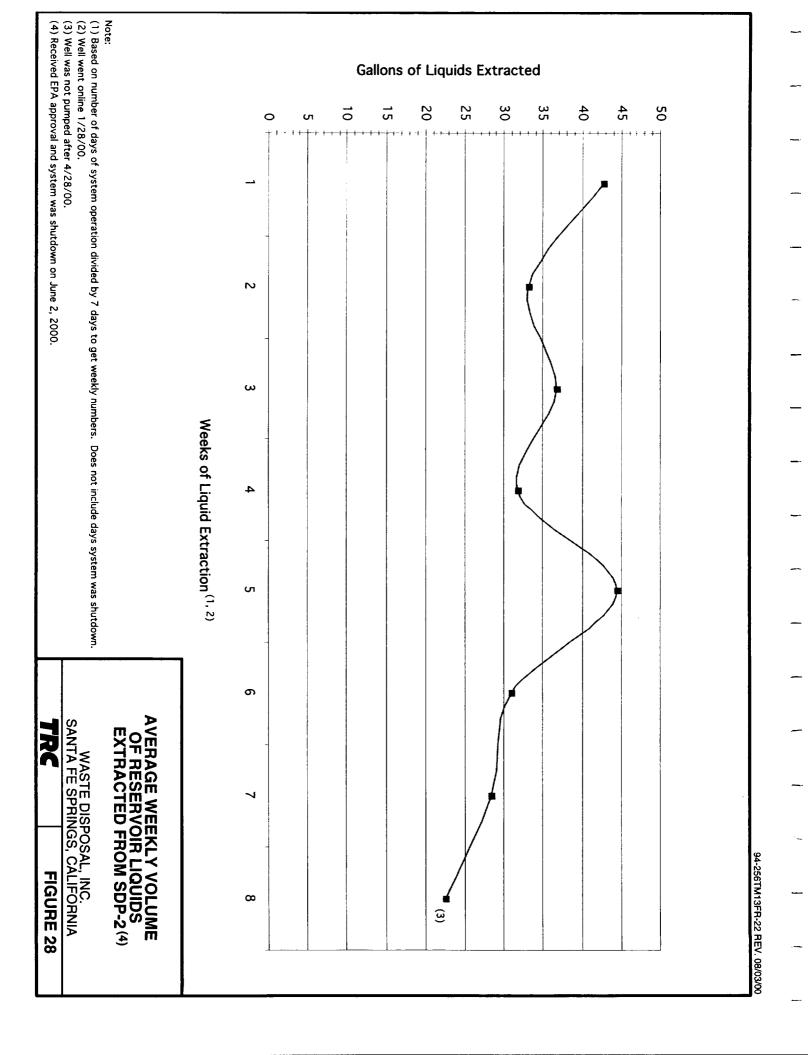


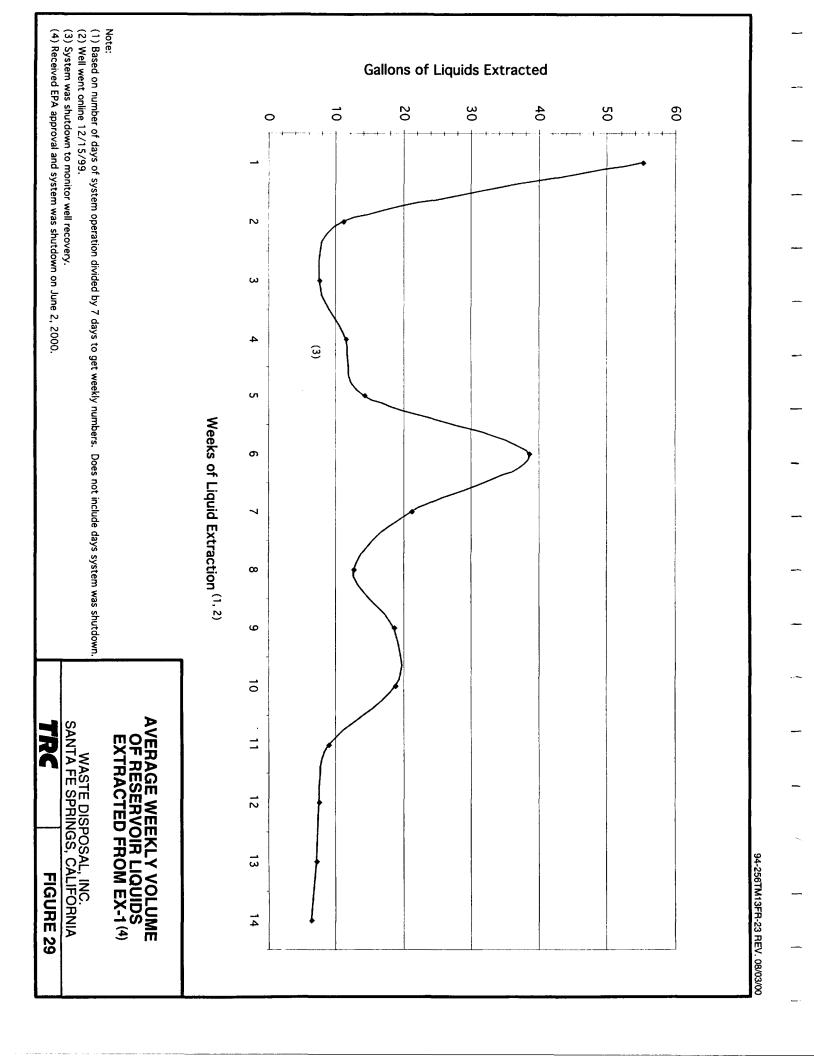


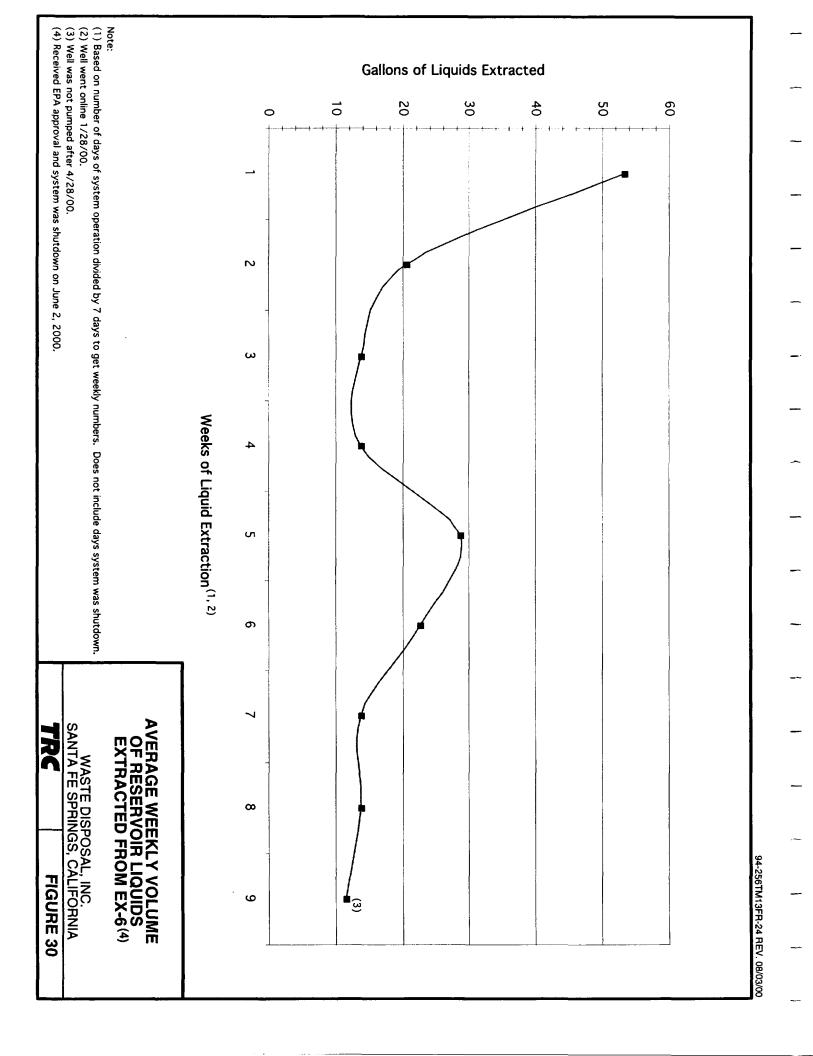


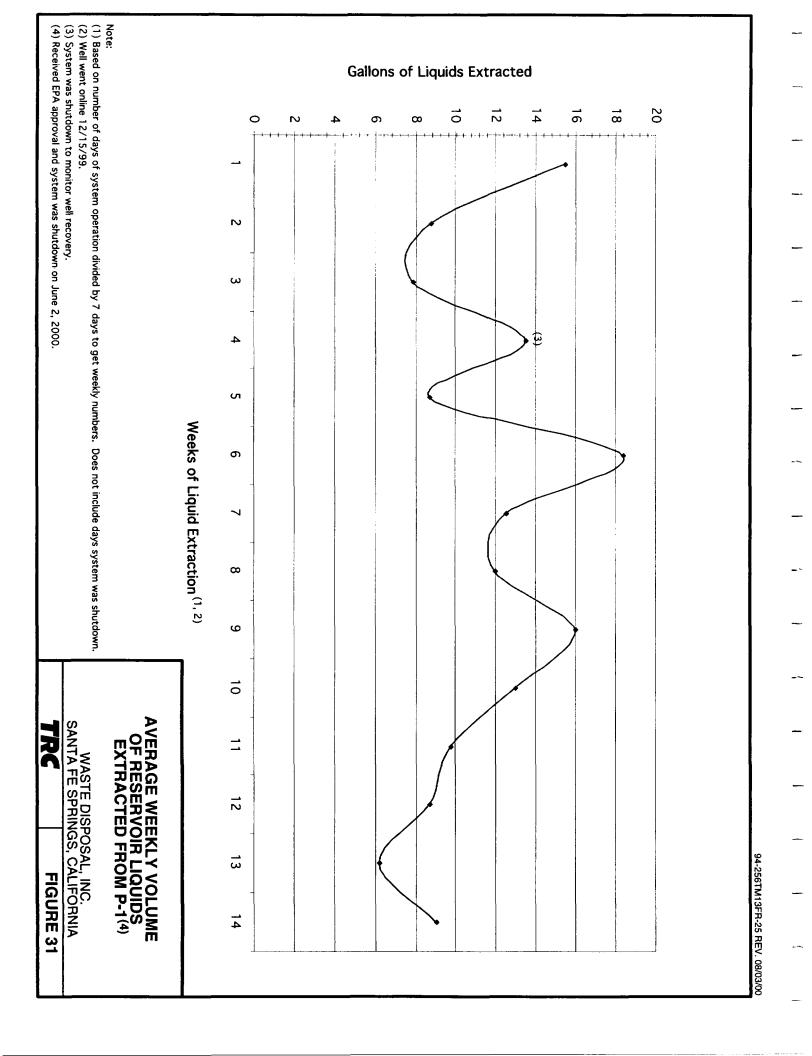












A Project

STANDARD OPERATING PROCEDURE Q RESERVOIR LIQUIDS MONITORING WASTE DISPOSAL, INC. SUPERFUND SITE

1.0 GENERAL

- 1. This Standard Operating Procedure (SOP) Q has been prepared to guide the Reservoir Liquids Monitoring activities for the Waste Disposal, Inc. (WDI) Superfund Site in Santa Fe Springs, California.
- 2. Ten TM No. 13 extraction wells will be monitored on a monthly basis for 3 months, then quarterly until construction of the Remedial Action to determine liquids levels.
- 3. Any of the remaining 13 capped reservoir wells (EX-1, -4, -6, P-1, -2, -3, -4, RW-3, -5, SOP-1, -2, -3 and VW-09) may, if determined necessary by United States Environmental Protection Agency (EPA), be added to this ten-well monitoring program.
- 4. Appropriate health and safety, emergency response and Quality Assurance/Quality Control (QA/QC) procedures are provided in the following Appendicies of the Remedial Design Investigative Workplan:
 - Field Sampling and Analysis Plan (Appendix A).
 - Quality Assurance Project Plan (Appendix B).
 - Treatability Study Workplan (Appendix C).
 - Waste Materials Disposal Plan (Appendix D).
 - Site Security Plan (Appendix E).

2.0 TASK DESCRIPTION

- 1. TM No. 13 extraction wells will be sounded with a water level meter to obtain liquid levels and the levels will be recorded.
- 2. If a well contains more than 18 inches of liquid, it will be pumped/bailed until the level is less than 12 inches.
- 3. The liquids will be transferred into a portable tank prior to being placed in oil/water separator.
- 4. The liquids will be transferred to the oil/water separator for treatment.



3.0 REQUIRED MATERIALS

- 1. The following materials are required to perform this procedure:
 - Solonist water level meter.
 - Portable battery operated submersible pump capable of pumping to less than 12 inches (Timco Bladder Pump or equivalent).
 - Extra AV battery for backup.
 - Portable tank for transferring liquids to oil/water separator.
 - Disposal Bailers.
 - Bailer Cord.
 - Personal protective equipment (PPE) as described in the Health and Safety Plan.
 - Field Activity Report forms and/or appropriate monitoring data sheets.
 - Pen with indelible ink.

4.0 TASK PERFORMANCE

4.1 MONITOR LIQUID LEVELS

- 1. Wells RW-2, -4, -6, -7, -8, -9, -10, PB-2, -6 and -8 will be measured as detailed in SOP F. The following general procedures will be used:
 - Water (liquid) level measurements will be made from a designated measuring point at the top of the well casing to an accuracy of ±0.01 feet. The level will be measured a minimum of two times, or until close agreement (±0.01) is obtained between consecutive measurements, before recording the depth to liquid.
 - Level measurements will be recorded on the appropriate form.
 - To prevent cross-contamination between wells, the sounding device will be decontaminated between each well.
 - Whenever possible, the level measurements during a sample round will be performed by the same person.

4.2 PUMPING/BAILING WELLS

- 1. If a well contains more than 18 inches of liquid, it will be pumped/bailed to a level below 12 inches.
- 2. The liquid will be collected in a portable tank and the volume of the liquids shall be recorded.



4.3 TRANSFER LIQUIDS TO OIL/WATER SEPARATOR

- 1. The treatment system will be monitored to ascertain system is working properly.
- 2. Baker Tank levels will be recorded prior to and subsequent to transferring liquids to the oil/water separator.
- 3. The collected liquids will be transferred to the oil/water separator for treatment.

4.4 SAMPLE IDENTIFICATION PROCEDURES

- 1. The monitoring procedures in this SOP will result in samples that will be collected prior to liquids disposal.
- 2. Each sample collected will be identified as having originated from the site by prefacing each sample designation with "WDI" (for Waste Disposal, Inc.) followed by an alpha and numerical code. The sample identifier is illustrated below:
 - WDI-BT-1-01-01-00 as Baker Tank (BT) Number 1 Sampled January 1, 2000.

4.5 SAMPLE COLLECTION

- 1. Baker liquids in tanks will be sampled prior to disposal.
- 2. Tank and/or drum liquids sampling activities are detailed in SOP O.

